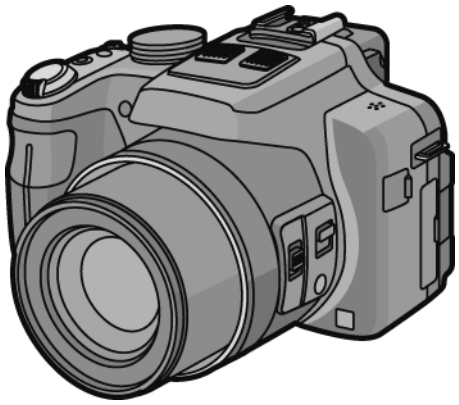
ORDER NO. DSC1110051CE
B26

Service Manual

Digital Camera

LUMIX

Model No. DMC-FZ150P
DMC-FZ150PC
DMC-FZ150PU
DMC-FZ150EB
DMC-FZ150EE
DMC-FZ150EF
DMC-FZ150EG
DMC-FZ150EP
DMC-FZ150GC
DMC-FZ150GD
DMC-FZ150GK
DMC-FZ150GN
DMC-FZ150GT



Vol. 2
Colour
(K).....Black Type

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

© Panasonic Corporation 2011 Unauthorized copying and distribution is a violation of law.

TABLE OF CONTENTS

PAGE

1 Safety Precautions ----------**3**
1.1. General Guidelines ----------3
1.2. Leakage Current Cold Check ----------3
1.3. Leakage Current Hot Check (See Figure 1.)--------3
1.4. How to Discharge the E.Capacitor on Flash P.C.B.----------4
2 Warning ----------**5**
2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatically Sensitive (ES) Devices ----------5
2.2. How to Recycle the Lithium Ion Battery (U.S. Only)----------5
2.3. Caution for AC Cord(For EB/GC) ----------6
2.4. How to Replace the Lithium Battery----------7
3 Service Navigation----------**8**
3.1. Introduction ----------8
3.2. Service Navigation----------8
3.3. General Description About Lead Free Solder (PbF) ----------9
3.4. How to Define the Model Suffix (NTSC or PAL model)---------- 10
4 Specifications ---------- **14**
5 Service Fixture & Tools ---------- **15**
5.1. When Replacing the Main P.C.B. ---------- 15
5.2. Service Position ---------- 15
6 Measurements and Adjustments ---------- **16**
7 Maintenance ---------- **16**
7.1. Cleaning Lens, Viewfinder and LCD Panel-------- 16

PAGE

1 Safety Precautions

1.1. General Guidelines

1. **IMPORTANT SAFETY NOTICE**
   There are special components used in this equipment which are important for safety. These parts are marked by

   ⚠ in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.
2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.2. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 MΩ and 5.2 MΩ. When the exposed metal does not have a return path to the chassis, the reading must be infinity.

1.3. Leakage Current Hot Check (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5 kΩ, 10 W resistor, in parallel with a 0.15 μF capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with 1 kΩ/V or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

Hot-Check Circuit

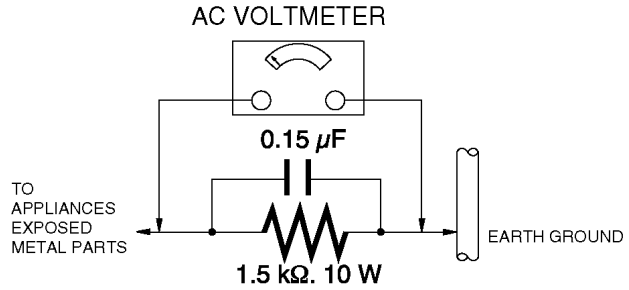


Figure. 1

1.4. How to Discharge the E.Capacitor on Flash P.C.B.

CAUTION:

1. **Be sure to discharge the E.capacitor on FLASH P.C.B..**
2. **Be careful of the high voltage circuit on FLASH P.C.B. when servicing.**

[Discharging Procedure]

1. Refer to the disassemble procedure and remove the necessary parts/unit.
2. Install the insulation tube onto the lead part of resistor (ERG5SJ102:1kΩ /5W).
   (An equivalent type of resistor may be used.)
3. Place a resistor between both terminals of E.capacitor on the FLASH P.C.B. for approx. 5 seconds.
4. After discharging, confirm that the E.capacitor voltage is lower than 10V by using a voltmeter.

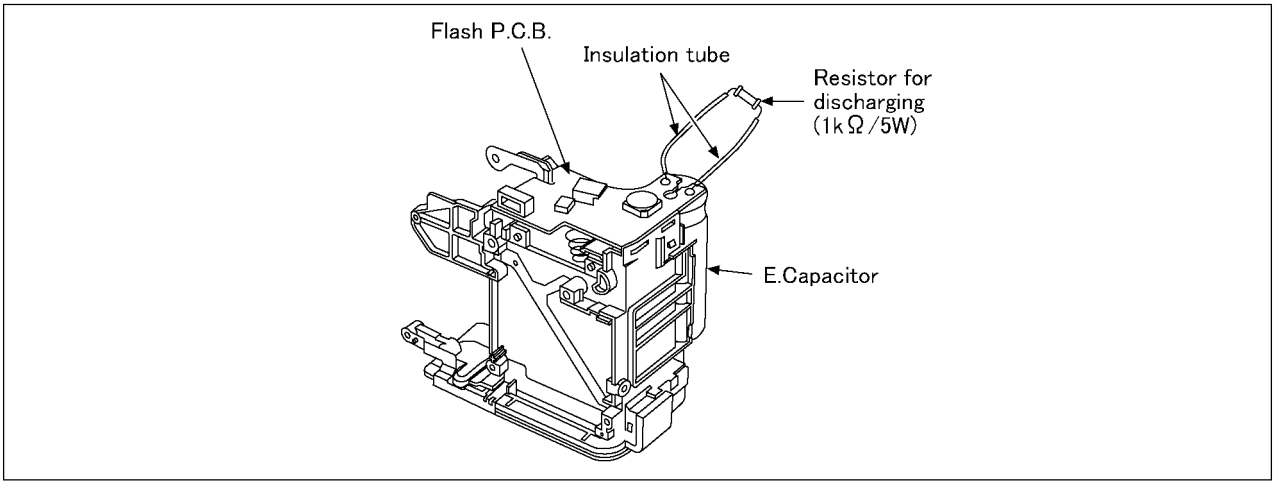


Fig. F1

2 Warning

2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices.

> Examples of typical ES devices are IC (integrated circuits) and some field-effect transistors and semiconductor “chip” components.

The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION :
   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

2.2. How to Recycle the Lithium Ion Battery (U.S. Only)

ENGLISH

A lithium ion battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

FRANÇAIS

L’appareil que vous vous êtes procuré est alimenté par une batterie au lithium-ion recyclable. Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.

2.3. Caution for AC Cord (For EB/GC)

2.3.1. Information for Your Safety

IMPORTANT

Your attention is drawn to the fact that recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

WARNING

To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.

CAUTION

To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

FOR YOUR SAFETY

DO NOT REMOVE THE OUTER COVER

To prevent electric shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

2.3.2. Caution for AC Mains Lead

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amperes and it is approved by ASTA or BSI to BS1362
Check for the ASTA mark or the BSI mark on the body of the fuse.

ASTA mark	BSI mark

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.

If the fitted moulded plug is unsuitable for the socket outlet in your home then the fuse should be removed and the plug cut off and disposed of safety.
There is a danger of severe electrical shock if the cut off plug is inserted into any 13-ampere socket.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt, please consult a qualified electrician.

2.3.2.1. Important

The wires in this mains lead are coloured in accordance with the following code:

Blue	Neutral
Brown	Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

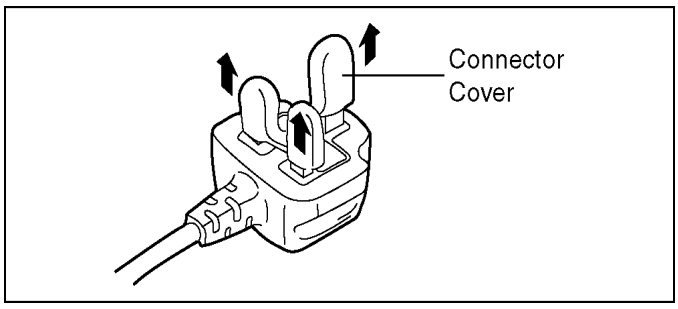
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol.

Earth Symbol	⏚

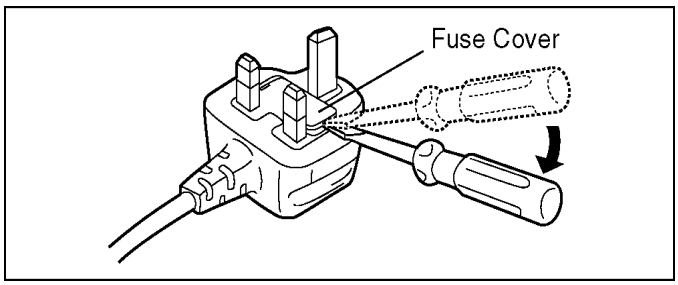
2.3.2.2. Before Use

Remove the Connector Cover as follows.

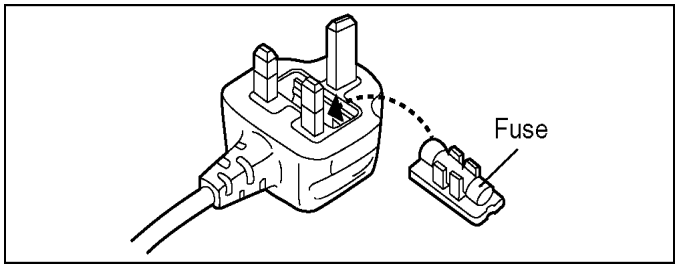


2.3.2.3. How to Replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



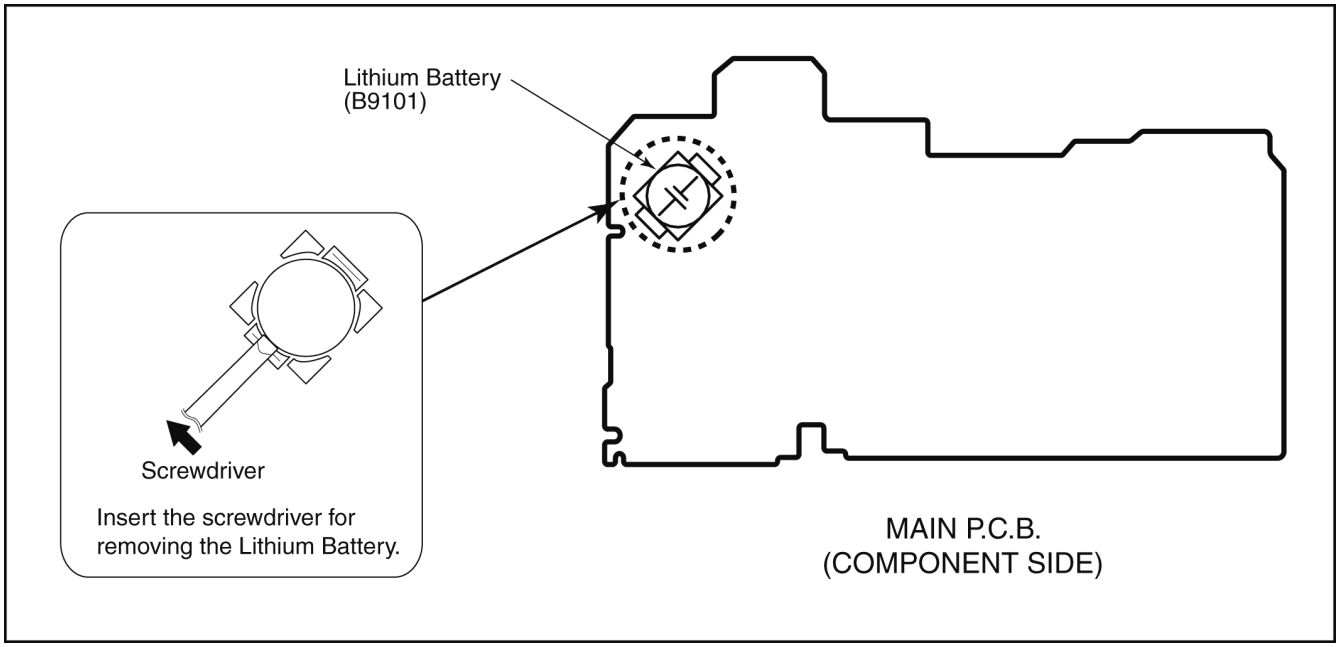
2. Replace the fuse and attach the Fuse cover.



2.4. How to Replace the Lithium Battery

2.4.1. Replacement Procedure

1. Remove the MAIN P.C.B.. (Refer to Disassembly Procedures.)
2. Remove the Lithium battery (Ref. No. “B9101” at component side of MAIN P.C.B.) and then replace it into new one.



NOTE:

This Lithium battery is a critical component.
(Type No.: ML614 **Manufactured by Energy Company, Panasonic Corporation.**)
It must never be subjected to excessive heat or discharge.
It must therefore only be fitted in requirement designed specifically for its use.
Replacement batteries must be of same type and manufacture.
They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.
Do not attempt to re-charge the old battery or re-use it for any other purpose.
It should be disposed of in waste products destined for burial rather than incineration.

(For English)

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer’s instructions.

(For German)

ACHTUNG

Explosionsgefahr bei falschem Anbringen der Batterie. Ersetzen Sie nur mit einem äquivalentem vom Hersteller empfohlenem Typ.
Behandeln Sie gebrauchte Batterien nach den Anweisungen des Herstellers.

(For French)

MISE EN GARDE

Une batterie de remplacement inappropriée peut exploser. Ne remplacez qu’avec une batterie identique ou d’un type recommandé par le fabricant. L’élimination des batteries usées doit être faite conformément aux instructions du manufacturier.

NOTE:

Above caution is applicable for a battery pack which is for DMC-FZ150 series, as well.

3 Service Navigation

3.1. Introduction

This service manual contains technical information, which allow service personnel's to understand and service this model.
Please place orders using the parts list and not the drawing reference numbers.
If the circuit is changed or modified, the information will be followed by service manual to be controlled with original service manual.

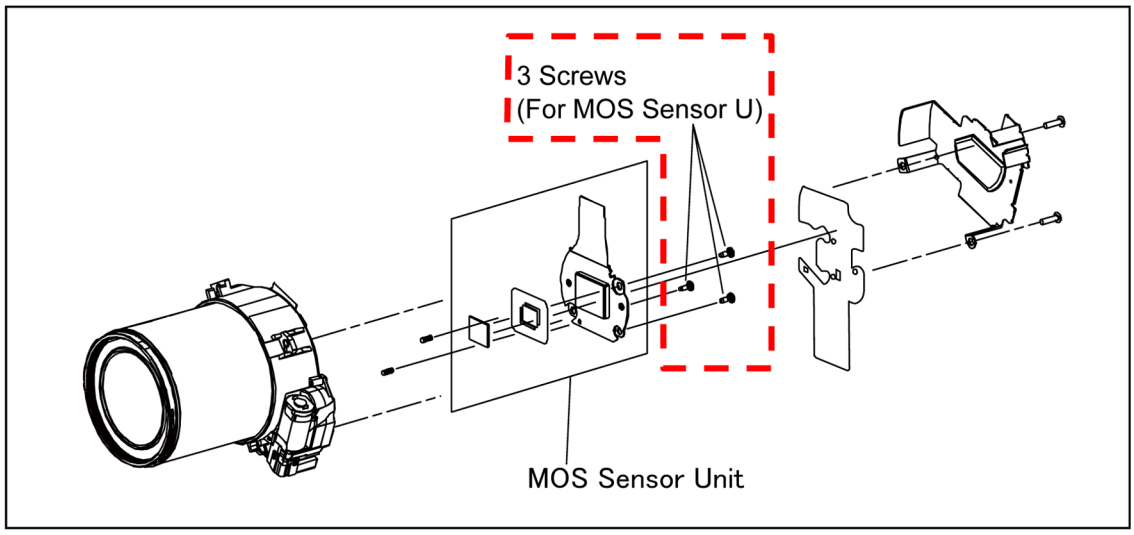
3.2. Service Navigation

3.2.1. About lens block

- The image sensor (MOS SENSOR) unit which are connected to the lens unit with 3 screws. These screws are locked with the screw locking glue, after performing the Optical tilt adjustment.
  During servicing, if one of MOS SENSOR fixing screws are loosened, the Optical tilt adjustment must be performed.
  (About the Optical tilt adjustment, refer to the "9.3.2 Adjustment Specifications" for details.)

NOTE:

- It is necessary to use the "DSC_Tilt" software to allow the "Optical tilt adjustment".
- The Adjustment software "DSC_Tilt" is available at "TSN Website". To download, click on "Support Information from NWBG/VDBG-AVC".

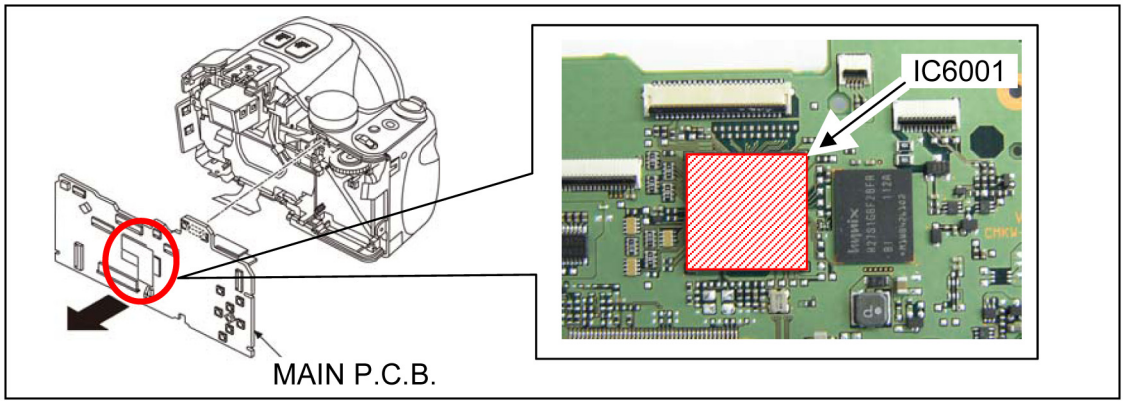


3.2.2. About VENUS ENGINE(IC6001) [Located on the Main P.C.B.]:

- The VENUS ENGINE (IC6001) consists of two IC chips, which are fixed together with solder.
  (The so called, "Package On Package" type IC.)

NOTE:

- During servicing, do not press down hard on the surface of IC6001.



3.2.3. About Flexible Cable and Connector

Do not touch carelessly so that the foreign body should not adhere to the terminal part of flexible cable and connector.
Wipe off with a clean cloth and the cotton bud, etc. when the terminal part is dirty.

3.3. General Description About Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30°C (86°F) more than that of the normal solder.

Distinction of P.C.B. Lead Free Solder being used

The letter of “PbF” is printed either foil side or components side on the P.C.B. using the lead free solder.(See right figure)	PbF

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used. (Definition: The letter of “PbF” is printed on the P.C.B. using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the P.C.B. cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30°C (662±86°F).

Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.
  RFKZ03D01KS----------(0.3mm 100g Reel)
  RFKZ06D01KS----------(0.6mm 100g Reel)
  RFKZ10D01KS----------(1.0mm 100g Reel)

Note

* Ingredient: tin (Sn) 96.5%, silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

3.4. How to Define the Model Suffix (NTSC or PAL model)

There are nine kinds of DMC-FZ150.

- a) DMC-FZ150 (Japan domestic model)
- b) DMC-FZ150P/PC
- c) DMC-FZ150EB/EF/EG/EP
- d) DMC-FZ150EE
- e) DMC-FZ150GT
- f) DMC-FZ150GK
- g) DMC-FZ150GD
- h) DMC-FZ150GN
- i) DMC-FZ150GC/PU

What is the difference is that the “INITIAL SETTINGS” data which is stored in Flash-ROM mounted on MAIN P.C.B..

3.4.1. Defining methods:

To define the model suffix to be serviced, refer to the nameplate which is putted on the bottom side of the Unit.

a) DMC-FZ150 (Japan domestic model)

The nameplate for this model shows the following Safety registration mark.

b) DMC-FZ150P/PC

The nameplate for these models show the following Safety registration mark.

c) DMC-FZ150EB/EF/EG/EP

The nameplate for these models show the following Safety registration mark.

d) DMC-FZ150EE

The nameplate for this model shows the following Safety registration mark.

e) DMC-FZ150GT

The nameplate for this model shows the following Safety registration mark.

f) DMC-FZ150GK

The nameplate for this model shows the following Safety registration mark.

g) DMC-FZ150GD

The nameplate for this model shows the following Safety registration mark.

h) DMC-FZ150GN

The nameplate for this model shows the following Safety registration mark.

i) DMC-FZ150GC/PU

The nameplate for these models do not show any above Safety registration mark.

NOTE:

After replacing the MAIN P.C.B., be sure to achieve adjustment.

The service software is available at “TSN Website”. To download, click on “Support Information from NWBG/VDBG-AVC”.

3.4.2. INITIAL SETTINGS:

After replacing the MAIN P.C.B., make sure to perform the initial settings after achieving the adjustment by ordering the following procedure in accordance with model suffix of the unit.

1. IMPORTANT NOTICE:

Before proceeding Initial settings, make sure to read the following CAUTIONS.

CAUTION 1:(INITIAL SETTINGS)

--- AFTER REPLACING THE MAIN P.C.B. and/or FLASH-ROM ---

[Except "EG, EF, EB and EP" models : (VEP56145A is used as a Main P.C.B.)]

*. The model suffix can be chosen **JUST ONE TIME.**
(Effective model suffix : "P/PU/GD/GC/GT/GK/EE/GN/PC and NONE(JAPAN)")

*. Once one of the model suffix has been chosen, the model suffix lists will not be displayed, thus, it can not be changed.

[Only for "EG, EF, EB and EP" models : (VEP56145B is used as a Main P.C.B.)]

*. From the beginning, only "EG, EF, EB and EP" are displayed as model suffix lists, and these are displayed from the second times as well.

CAUTION 2:(Stored picture image data in the unit)

This unit employs "Built-in Memory" for picture image data recording.(Approx.70MB)
After proceeding "INITIAL SETTINGS", the picture image data stored in the unit is erased.

2. PROCEDURES:

- Precautions: Read the above "CAUTION 1" and "CAUTION 2", carefully.
- Preparation:
  - Attach the Battery or AC Adaptor with a DC coupler to the unit.
    (Since this unit has built-in memory, it can be performed without inserting SD memory card.)
- **Step 1. The temporary cancellation of “INITIAL SETTINGS”:**
  Set the mode dial to “[P] (Program AE mode)”.
  While pressing “[UP] of Cursor button” and [MOTION PICTURE] button simultaneously, turn the Power on.
- **Step 2. The cancellation of “INITIAL SETTINGS”:**
  Press the [PLAYBACK] button, then playback the picture.
  Press “[UP] of Cursor button” and [MOTION PICTURE] button simultaneously, then turn the Power off.
  The LCD displays the “ ! ” mark before the unit powers down.

- **Step 3. Turn the Power on:**
  Set the mode dial to “[P] (Program AE mode)”, and then turn the Power on.
- **Step 4. Display the INITIAL SETTING:**
  While pressing [MENU/SET] and “[RIGHT] of Cursor buttons” simultaneously, turn the Power off.
  The "INITIAL SETTINGS" menu is displayed.
  There are two kinds of “INITIAL SETTINGS” menu form as follows:

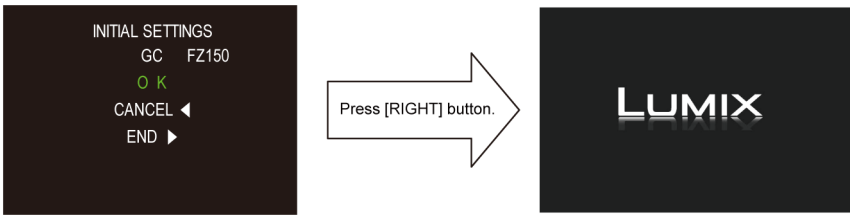
[CASE 1. After replacing MAIN P.C.B.]
[Except “EG, EF, EB and EP” models: (VEP56145A is used as a Main P.C.B.)]
When MAIN P.C.B. has just been replaced, all of the model suffix is displayed as follows. (Four pages in total)

[Only “EG, EF, EB and EP” models: (VEP56145B is used as a Main P.C.B.)]
When MAIN P.C.B. has just been replaced, only 7 model suffix are displayed as follows. (Two pages in total)

[CASE 2. Other than “After replacing MAIN P.C.B.”]

- **Step 5. Choose the model suffix in “INITIAL SETTINGS”: (Refer to “CAUTION 1”)**
  [Caution: After replacing MAIN P.C.B.]
  The model suffix can been chosen, **JUST ONE TIME**.
  Once one of the model suffix have been chosen, the model suffix lists will not be displayed, thus, it can not be changed.
  Therefore, select the area carefully.
  Select the area with pressing “[UP] / [DOWN] of Cursor buttons”.

• **Step 6. Set the model suffix in “INITIAL SETTINGS”:**
• Press the “[RIGHT] of Cursor buttons”.
• The only set area is displayed, and then press the “[RIGHT] of Cursor buttons” after confirmation.
(The unit is powered off automatically.)



• **Step 7. CONFIRMATION:**
Confirm the display of “PLEASE SET THE CLOCK” in concernd language when the unit is turned on again.
When the unit is connected to PC with USB cable, it is detected as removable media.
(When the “GT” or “GK” model suffix is selected, the display shows “PLEASE SET THE CLOCK” in Chinese.)

1) As for your reference, major default setting condition is as shown in the following table.
• **Default setting (After “INITIAL SETTINGS”)**

	MODEL	VIDEO OUTPUT	LANGUAGE	DATE	REMARKS
a)	DMC-FZ150 (Japan domestic model)	NTSC	Japanese	Year/Month/Date	
b)	DMC-FZ150P	NTSC	English	Month/Date/Year	
c)	DMC-FZ150PU	NTSC	Spanish	Month/Date/Year	
d)	DMC-FZ150GD	NTSC	Korean	Year/Month/Date	
e)	DMC-FZ150GC	PAL	English	Date/Month/Year	
f)	DMC-FZ150GT	NTSC	Chinese (traditional)	Year/Month/Date	
g)	DMC-FZ150GK	PAL	Chinese (simplified)	Year/Month/Date	
h)	DMC-FZ150EE	PAL	Russian	Date/Month/Year	
i)	DMC-FZ150GN	PAL	English	Date/Month/Year	
j)	DMC-FZ150PC	NTSC	English	Month/Date/Year	
k)	DMC-FZ150EG	PAL	English	Date/Month/Year	
l)	DMC-FZ150EF	PAL	French	Date/Month/Year	
m)	DMC-FZ150EB	PAL	English	Date/Month/Year	
n)	DMC-FZ150EP	PAL	English	Date/Month/Year	

4 Specifications

Digital Camera:
Information for your safety

Power Source:	DC 8.4 V
Power Consumption:	1.6 W (When recording with LCD Monitor) 1.4 W (When recording with Viewfinder) 1.0 W (When playing back with LCD Monitor) 0.9 W (When playing back with Viewfinder)

Camera effective pixels	12,100,000 pixels	
Image sensor	1/2.3″ MOS sensor, total pixel number 12,800,000 pixels, Primary color filter	
Lens [NANO SURFACE COATING]	Optical 24× zoom, f = 4.5 mm to 108 mm (35 mm film camera equivalent: 25 mm to 600 mm) Wide: F2.8 to F8.0 (when recording motion pictures: F2.8 to F11) Tele: F5.2 to F8.0 (when recording motion pictures: F5.2 to F11)	
Image Stabilizer	Optical method	
Digital zoom	Max. 4×	
Extended optical zoom	Max. 46.9× (When set to 3,000,000 pixels [3M] or less)	
Focus range	AF	30 cm (0.99 feet) (Wide)/ 2 m (6.57 feet) (Tele) to ∞
	AF Macro/MF/ Intelligent Auto/ Motion Picture	1 cm (0.04 feet) (Wide)/ 1 m (3.28 feet) (Tele) to ∞
	Scene Mode	There may be differences in the above settings.
Shutter system	Electronic shutter+Mechanical shutter	
Burst recording	Burst speed	
For mechanical shutter	2 frames/sec, 5.5 frames/sec, 12 frames/sec	
For electronic shutter	40 frames/sec, 60 frames/sec	
During motion picture recording	2 frames/sec (Max. 40 frames/3.5 M), 5 frames/sec (Max. 40 frames/3.5 M), 10 frames/sec (Max. 40 frames/3.5 M)	
Minimum Illumination	**[NTSC areas]** Approx. 9 lx (when i-low light is used, the shutter speed is 1/30th of a second) **[PAL areas]** Approx. 9 lx (when i-low light is used, the shutter speed is 1/25th of a second)	
Shutter speed		
Still picture	15 seconds to 1/2000th of a second [STARRY SKY] Mode: 15 seconds, 30 seconds	
Motion pictures	1/30 to 1/20000th of a second Creative Video Mode (Manual Exposure/Manual Focus): 1/8 to 1/20000th of a second	

Exposure (AE)	Program AE (P)/Aperture-Priority AE (A)/ Shutter-Priority AE (S)/Manual Exposure (M) Exposure compensation (1/3 EV Step, −3 EV to +3 EV)	
Metering mode	Multiple/Center weighted/Spot	
LCD monitor	3.0″ TFT LCD (3:2) (Approx. 461,000 dots) (field of view ratio about 100%)	
Viewfinder	Color LCD Viewfinder (Approx. 202,000 dots) (field of view ratio about 100%) (with diopter adjustment −4 to +4 diopter)	
Flash	Built-in pop up flash	
	Flash range: Approx. 30 cm (0.99 feet) to 9.5 m (31.16 feet) (Wide, [ISO AUTO] is set)	
Microphone	Stereo	
Speaker	Monaural	
Recording media	Built-in Memory (Approx. 70 MB)/SD Memory Card/ SDHC Memory Card/SDXC Memory Card	
Recording file format		
Still Picture	RAW/JPEG (based on “Design rule for Camera File system”, based on “Exif 2.3” standard, DPOF corresponding)/MPO	
Motion pictures	AVCHD/MP4/QuickTime Motion JPEG	
Audio compression	AVCHD	AC3/2 ch
	MP4	AAC/2 ch
Interface		
Digital	“USB 2.0” (High Speed)	
Analog video	**[NTSC areas]:** NTSC **[PAL areas]:** NTSC/PAL Composite (Switched by menu)	
Audio	Audio line output (monaural)	
Terminal		
[MIC/REMOTE]	ϕ 2.5 mm jack	
[AV OUT/ DIGITAL]	Dedicated jack (8 pin)	
[HDMI]	MiniHDMI TypeC	
Dimensions (excluding the projecting parts)	Approx. 124.3 mm (W)×81.7 mm (H)×95.2 mm (D) [4.89″(W)×3.20″(H)×3.74″(D)]	
Mass (weight)	Approx. 528 g/1.16 lb (with card and battery) Approx. 484 g/1.06 lb (excluding card and battery)	
Operating temperature	0 °C to 40 °C (32 °F to 104 °F)	
Operating humidity	10%RH to 80%RH	

Battery Charger:
Information for your safety

Input:	AC ～110 V to 240 V, 50/60 Hz, 0.15 A
Output:	DC ⎓ 8.4 V, 0.43 A

Equipment mobility:
Movable

Battery Pack (lithium-ion):
Information for your safety

Voltage/capacity:	7.2 V/895 mAh

NOTE:(Only for "EB/EF/EG/EP" models)
- Data from the PC can not be written to the camera using the USB connection cable.
- Motion pictures can be recorded continuously for up to 29 minutes 59 seconds.

5 Service Fixture & Tools

5.1. When Replacing the Main P.C.B.

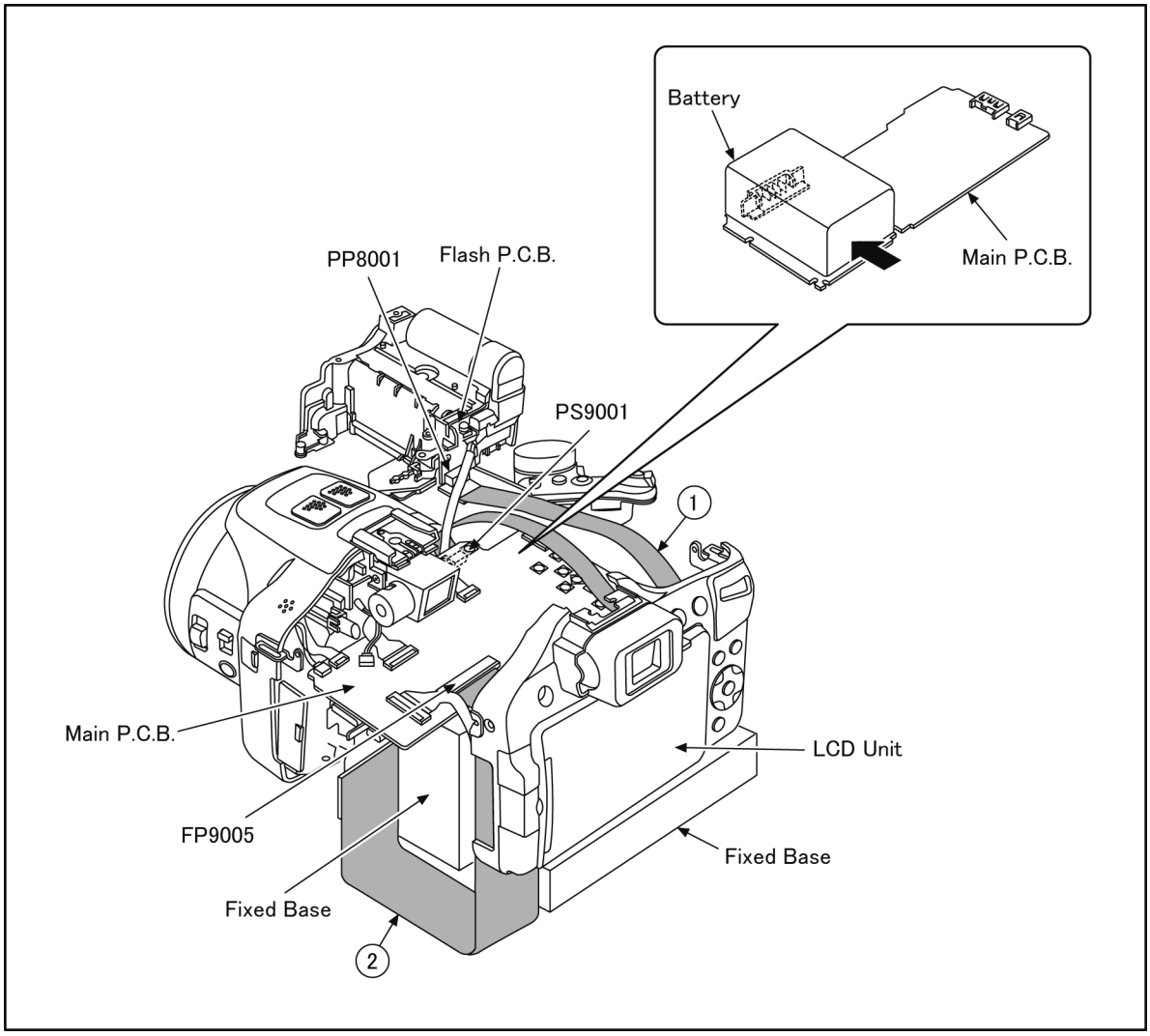
After replacing the MAIN P.C.B., be sure to achieve adjustment.
The service software is available at “TSN Website”. To download, click on “Support Information from NWBG/VDBG-AVC”.

5.2. Service Position

This Service Position is used for checking and replacing parts. Use the following Extension cables for servicing.

Table S1 Extension Cable List

No.	Parts No.	Connection	Form
1	VFK1906	PS9001 (MAIN) - PP8001 (FLASH)	20PIN B to B
2	VFK1953	FP9005 (MAIN) - LENS UNIT	40PIN 0.5 FFC



CAUTION-1. (When servicing FLASH P.C.B.)

1. Be sure to discharge the E.capacitor on FLASH P.C.B..
   Refer to “HOW TO DISCHARGE THE E.CAPACITOR ON FLASH P.C.B.”.
   The E.capacitor voltage is not lowered soon even if the AC Cord is unplugged or the battery is removed.
2. Be careful of the high voltage circuit on FLASH P.C.B..
3. DO NOT allow other parts to touch the high voltage circuit on FLASH P.C.B..

6 Measurements and Adjustments

The adjustment details are described in “Service Manual Vol.1” for this model.
When the following part(s) located on the MAIN P.C.B is replaced., perform the same necessary adjustment items of MAIN P.C.B.
*. IC6001 : VENUS
*. IC6005 : Flash-Rom
*. IC7101 : GYRO SENSOR

7 Maintenance

7.1. Cleaning Lens, Viewfinder and LCD Panel

Do not touch the surface of lens, Viewfinder and LCD Panel with your hand.
When cleaning the lens, use air-Blower to blow off the dust.
When cleaning the LCD Panel, dampen the lens cleaning paper with lens cleaner, and the gently wipe the its surface.
Note:

The Lens Cleaning KIT ; VFK1900BK (Only supplied as 10 set/Box) is available as Service Aid.

DSC1110051CE

Service Manual

Diagrams and Replacement Parts List

Digital Camera

Model No.

DMC-FZ150P
DMC-FZ150PC
DMC-FZ150PU
DMC-FZ150EB
DMC-FZ150EE
DMC-FZ150EF
DMC-FZ150EG
DMC-FZ150EP
DMC-FZ150GC
DMC-FZ150GD
DMC-FZ150GK
DMC-FZ150GN
DMC-FZ150GT

Vol. 2
Colour
(K).....Black Type

Table of contents

S1. About Indication of The Schematic Diagram S-1
S1.1. Important Safety Notice S-1

S2. Voltage Chart S-2
S2.1. Main P.C.B. S-2

S3. Block Diagram S-3
S3.1. System Control Block Diagram S-3
S3.2. Video/Audio Process Block Diagram S-4
S3.3. Lens Drive Block Diagram S-5
S3.4. Power Block Diagram S-6

S4. Schematic Diagram S-8
S4.1. Main Connection (MC) Schematic Diagram S-8
S4.2. System Driver (SY) Schematic Diagram S-12
S4.3. Digital (D) Schematic Diagram S-14
S4.4. Jack (J) Schematic Diagram S-18
S4.5. Power (P) Schematic Diagram S-20
S4.6. EXT MIC (EM) Schematic Diagram S-24
S4.7. Gyro (GY) Schematic Diagram S-25
S4.8. Hot Shoe (HS) Schematic Diagram S-26
S4.9. Rear Operation (R) Schematic Diagram S-27

S5. Print Circuit Board S-28
S5.1. Main P.C.B. S-28
S5.1.1. Main P.C.B. S-28
S5.1.2. Main P.C.B. Address Information S-32

S6. Replacement Parts List S-35

S1. About Indication of The Schematic Diagram

S1.1. Important Safety Notice

COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY THE SAME TYPE.

1.Although reference number of the parts is indicated on the P.C.B. drawing and/or schematic diagrams, it is NOT mounted on the P.C.B. when it is displayed with "$" mark.

2.It is only the "Test Round" and no terminal (Pin) is available on the P.C.B. when the TP (Test Point) indicated as "●" mark.

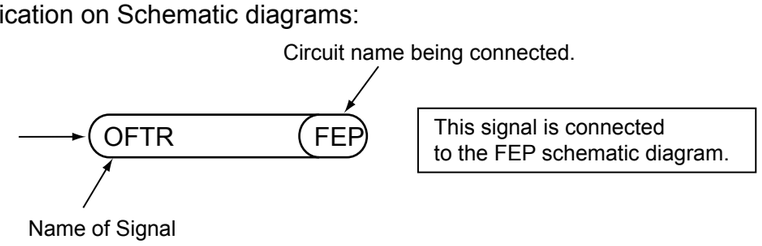
3.The voltage being indicated on the schematic diagram is measured in "Standard-Playback" mode when there is no specify mode is mentioned.

4.Although the voltage and waveform available on here is measured with standard frame, it may be differ from actual measurement due to modification of circuit and so on.

5.The voltage being indicated here may be include observational-error (deviation) due to internal-resistance and/or reactance of equipment. Therefore, handle the value indicated on here as reference.

6.Use the parts number indicated on the Replacement Parts List .

7.Indication on Schematic diagrams:



S2. Voltage Chart

Note) Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

S2.1. Main P.C.B.

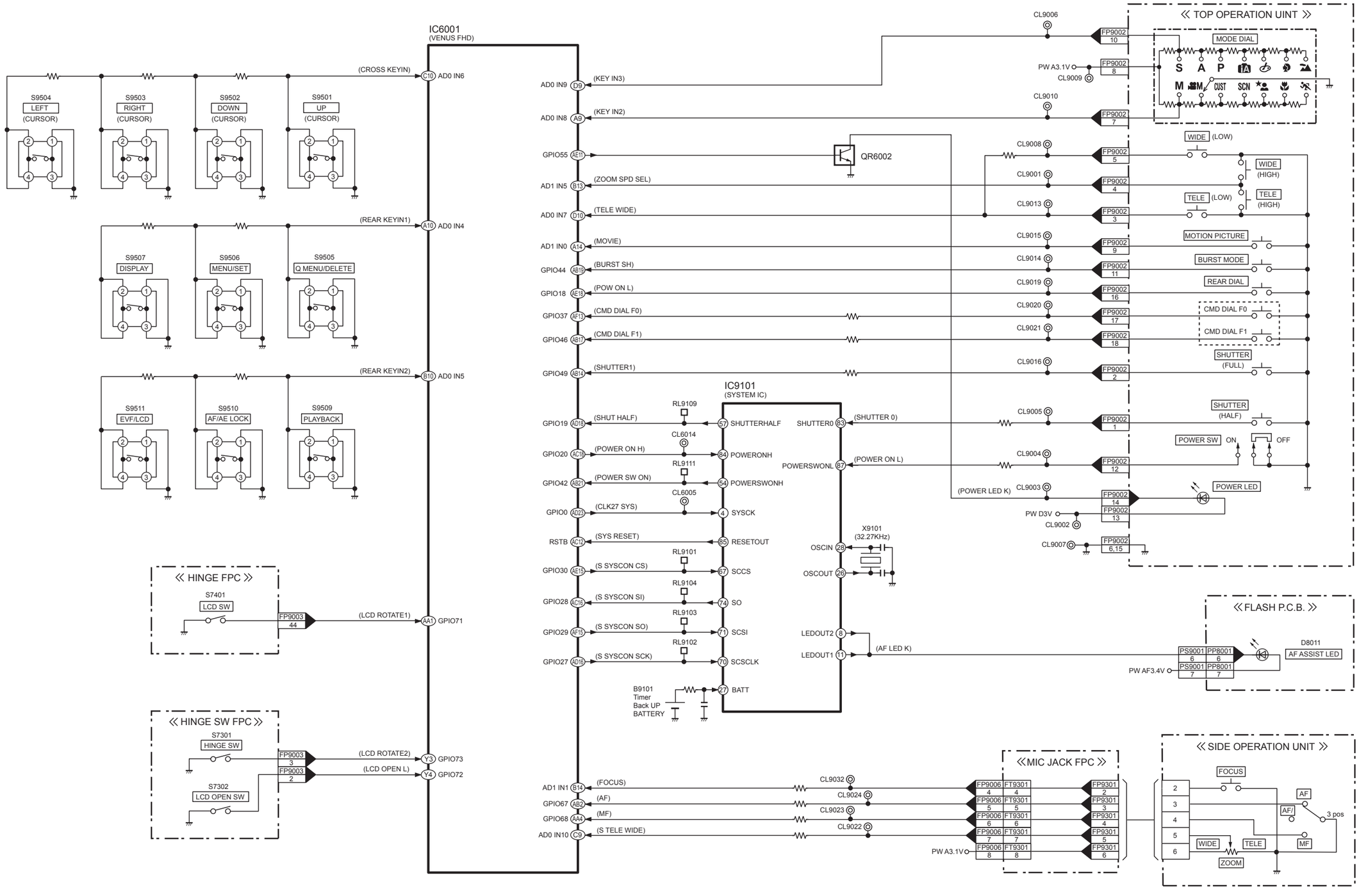
REF No.	PIN No.	POWER ON
IC1001	1	0.3
IC1001	2	1.0
IC1001	3	1.0
IC1001	4	1.2
IC1001	5	1.0
IC1001	6	0
IC1001	7	1.2
IC1001	8	1.0
IC1001	9	1.0
IC1001	10	1.2
IC1001	11	1.0
IC1001	12	1.5
IC1001	13	0
IC1001	14	3.0
IC1001	15	0.8
IC1001	16	1.0
IC1001	17	0
IC1001	18	0.5
IC1001	19	3.6
IC1001	20	7.2
IC1001	21	3.6
IC1001	22	3.6
IC1001	23	6.9
IC1001	24	9.1
IC1001	25	7.3
IC1001	26	7.3
IC1001	27	1.2
IC1001	28	1.2
IC1001	29	3.0
IC1001	30	4.3
IC1001	31	0
IC1001	32	0
IC1001	33	3.0
IC1001	34	7.2
IC1001	35	7.2
IC1001	36	1.2
IC1001	37	0
IC1001	38	0
IC1001	39	2.1
IC1001	40	2.1
IC1001	41	4.3
IC1001	42	4.3
IC1001	43	7.2
IC1001	44	7.2
IC1001	45	7.2
IC1001	46	3.4
IC1001	47	0
IC1001	48	0
IC1001	49	5.2
IC1001	50	5.2
IC1001	51	7.2
IC1001	52	7.2
IC1001	53	7.1
IC1001	54	0
IC1001	55	11.4
IC1001	56	0.4
IC1021	1	2.5
IC1021	2	0
IC1021	3	3.0
IC1021	4	3.0
IC1022	1	2.7
IC1022	2	0
IC1022	3	2.7
IC1022	4	3.0
IC1041	1	1.8
IC1041	2	0

REF No.	PIN No.	POWER ON
IC1041	3	3.0
IC1041	4	2.1
IC1042	1	1.8
IC1042	2	0
IC1042	3	3.0
IC1042	4	2.1
IC1043	1	1.5
IC1043	2	0
IC1043	3	3.0
IC1043	4	2.1
IC1051	1	3.1
IC1051	2	0
IC1051	3	3.4
IC1051	4	3.4
IC1061	1	5.2
IC1061	2	0
IC1061	3	5.0
IC1061	4	5.2
IC5001	1	0
IC5001	2	1.5
IC5001	3	-
IC5001	4	1.5
IC5001	5	-
IC5001	6	-
IC5001	7	0
IC5001	8	-
IC5001	9	0
IC5001	10	1.5
IC5001	11	0
IC5001	12	1.5
IC5001	13	0
IC5001	14	3.1
IC6004	1	3.0
IC6004	2	1.5
IC6004	3	0
IC6004	4	1.4
IC6004	5	3.0
Q1071	S	0.1
Q1071	D	0
Q1071	G	3.0
Q5201	E	0
Q5201	C	0
Q5201	B	0
Q5206	E	0
Q5206	C	0
Q5206	B	0
Q8101	S	0
Q8101	D	3.0
Q8101	G	0
Q8102	E	0
Q8102	C	0.1
Q8102	B	0
Q9101	E	4.4
Q9101	C	7.3
Q9101	B	4.9
QR5201	E	5.0
QR5201	C	0
QR5201	B	5.0
QR5202	E	0
QR5202	C	5.0
QR5202	B	0
QR6001	E	0
QR6001	C	3.1
QR6001	B	0
QR6002	E	0
QR6002	C	0.4

REF No.	PIN No.	POWER ON
QR6002	B	3.0
QR8101	1	0
QR8101	2	2.9
QR8101	3	0
QR8101	4	3.0
QR8101	5	2.9
QR8101	6	0
QR8102	E	0
QR8102	C	0
QR8102	B	3.0
QR8103	1	0
QR8103	2	0
QR8103	3	0
QR8103	4	3.0
QR8103	5	3.0
QR8103	6	3.0

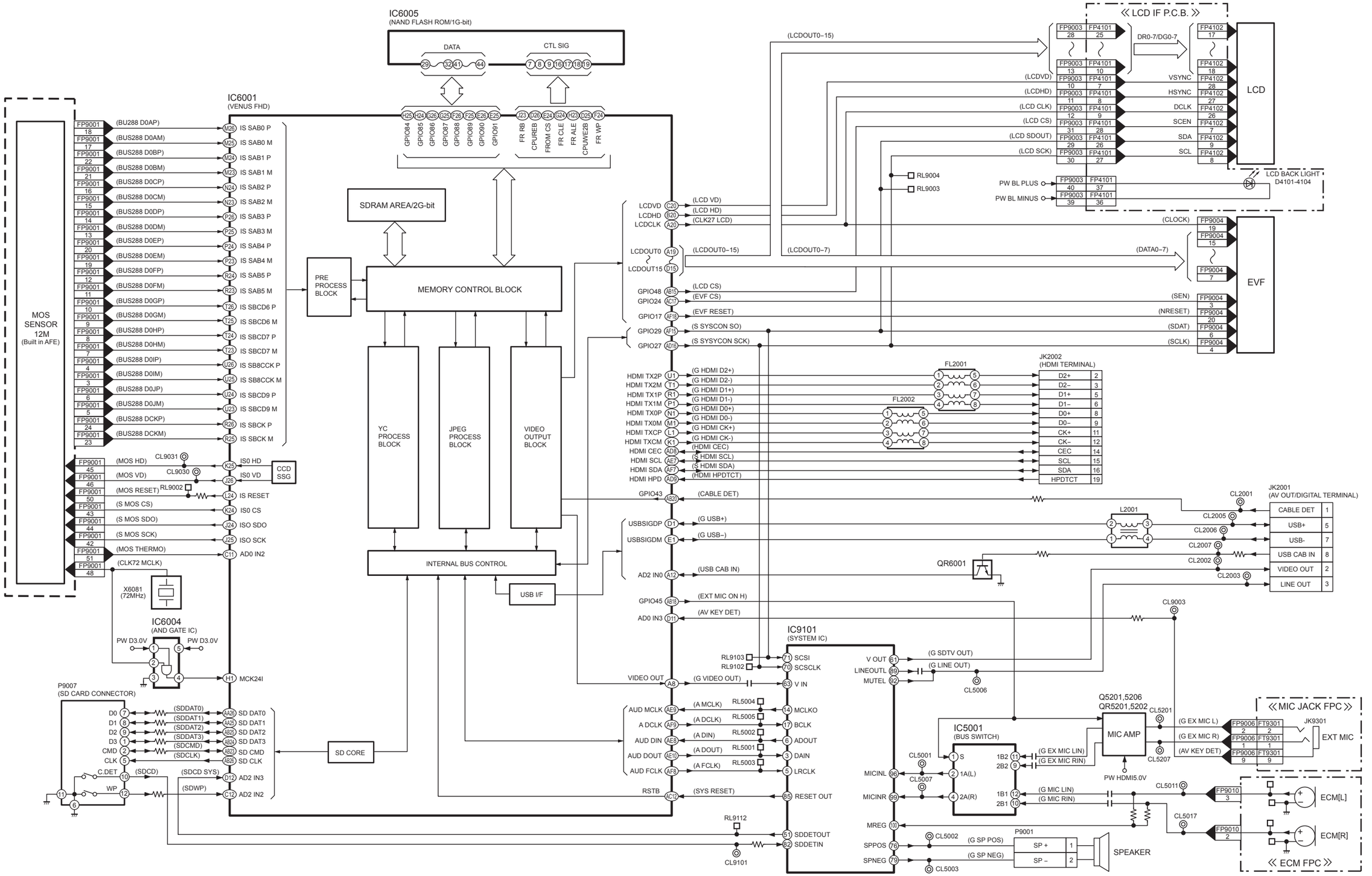
S3. Block Diagram

S3.1. System Control Block Diagram



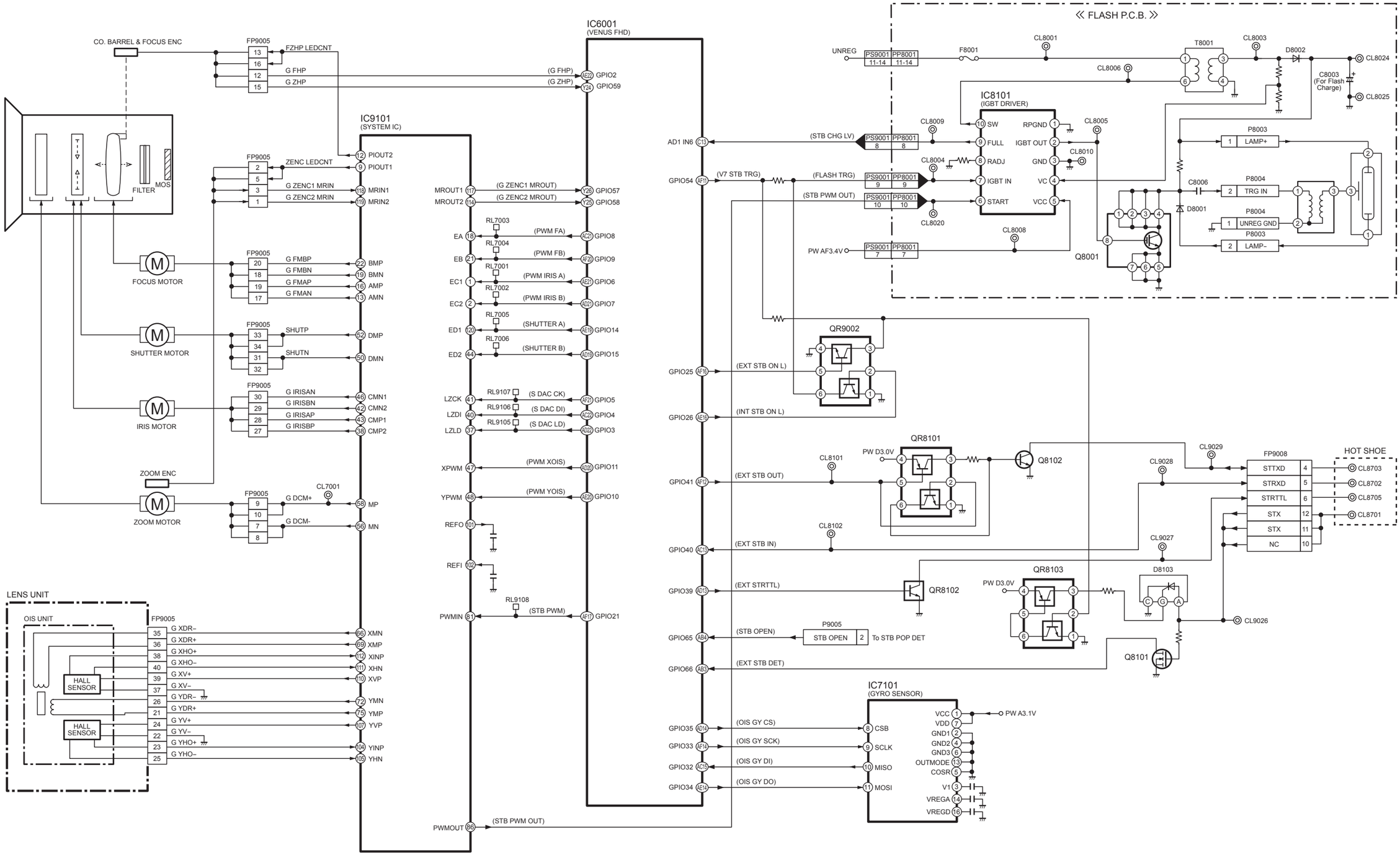
DMC-FZ150 SYSTEM CONTROL BLOCK DIAGRAM

S3.2. Video/Audio Process Block Diagram



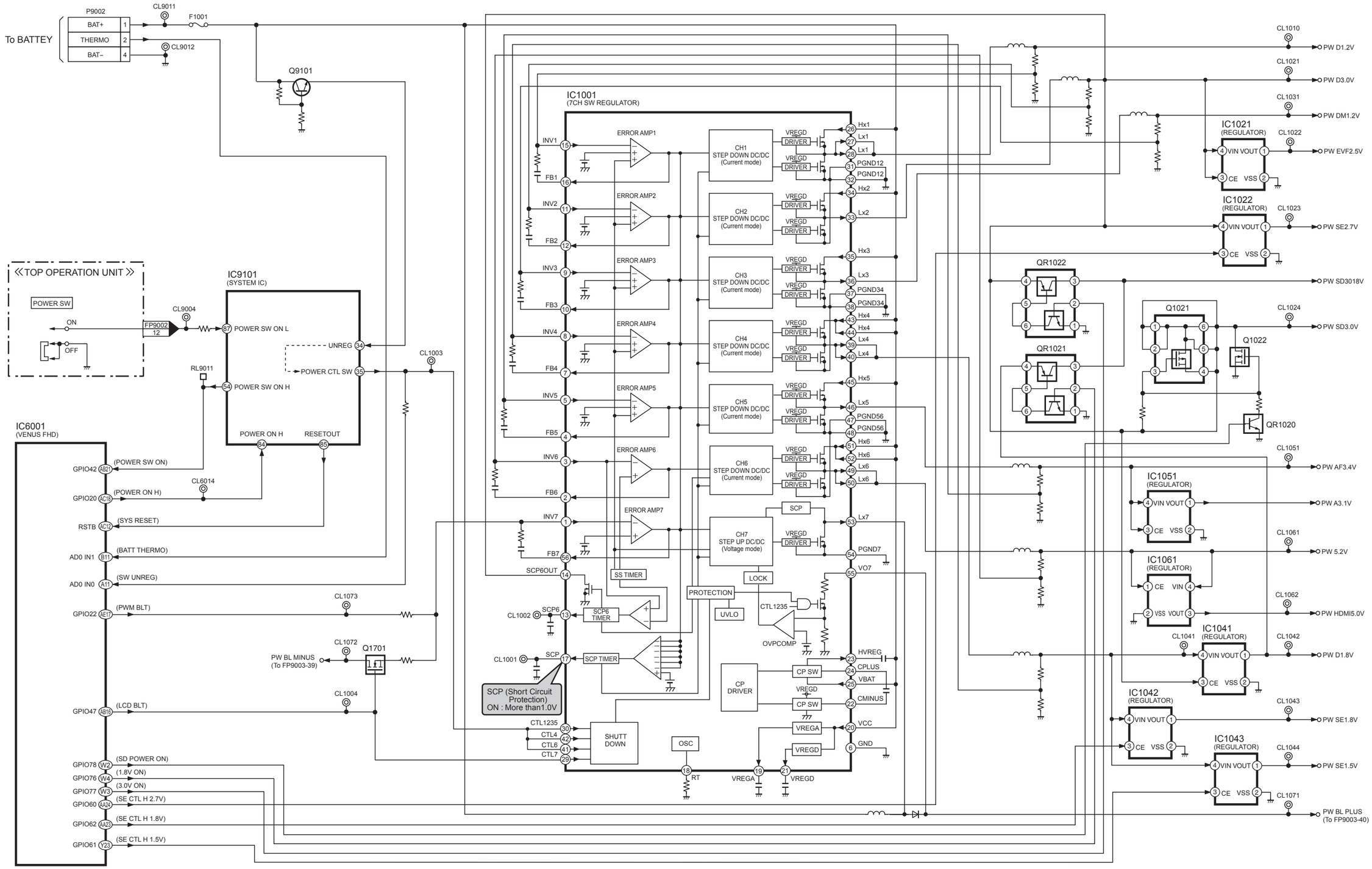
DMC-FZ150 VIDEO/AUDIO PROCESS BLOCK DIAGRAM

S3.3. Lens Drive Block Diagram



DMC-FZ150 LENS DRIVE BLOCK DIAGRAM

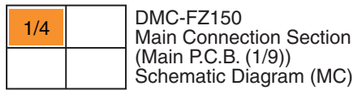
S3.4. Power Block Diagram

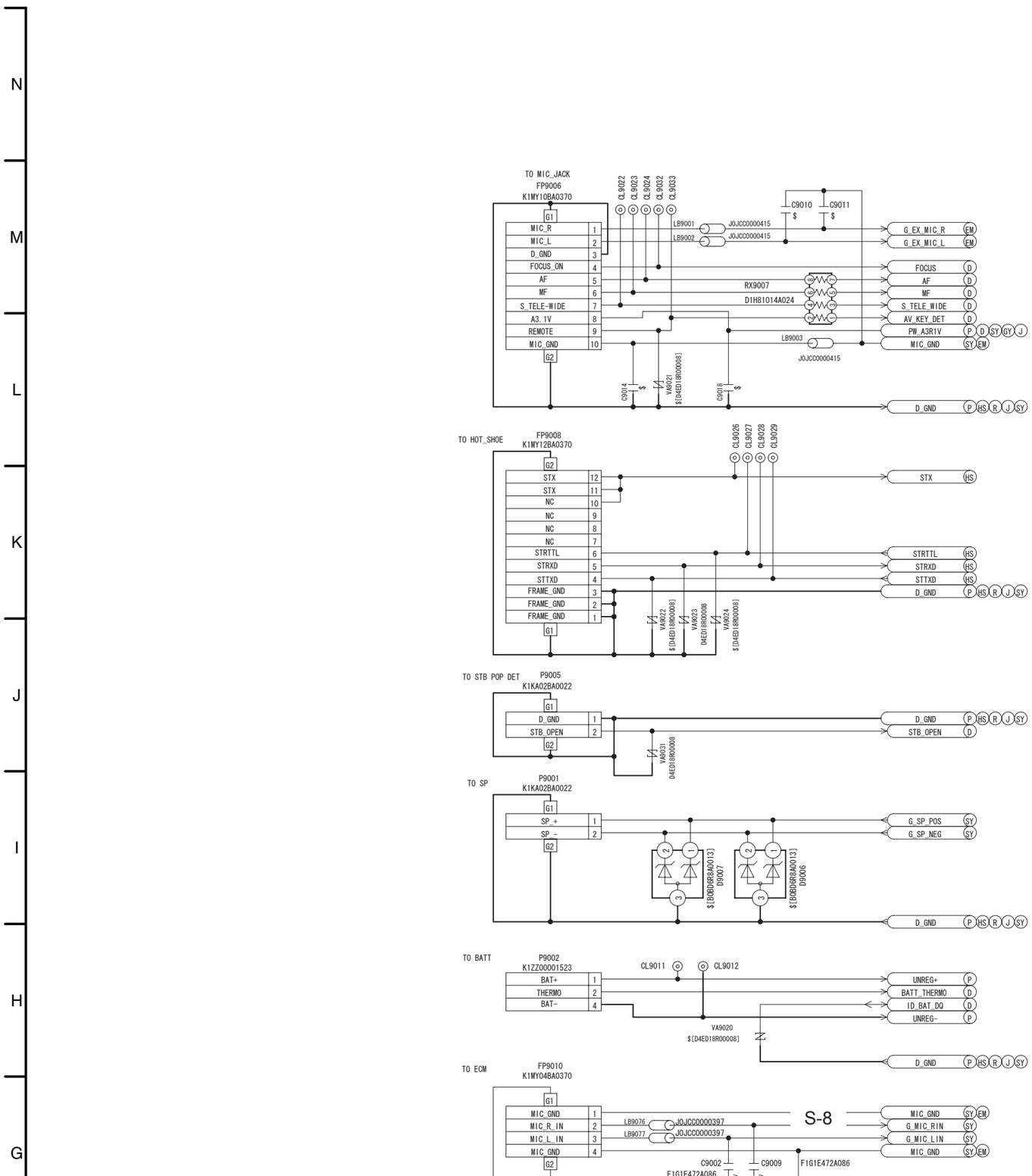


DMC-FZ150 POWER BLOCK DIAGRAM

S4. Schematic Diagram

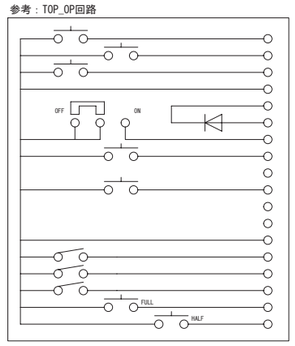
S4.1. Main Connection (MC) Schematic Diagram





LCD_ROTATE1 D
PW_BL_PLUS P
PW_BL_MINUS P
LCD_CS D
S_SYSCON_SCK D SY
S_SYSCON_SO D SY
LCDOUT6 D
LCDOUT4 D
LCDOUT2 D
LCDOUT0 D
LCDOUT7 D
LCDOUT5 D
LCDOUT3 D
LCDOUT1 D
LCDOUT15 D
LCDOUT13 D
LCDOUT11 D
LCDOUT9 D
LCDOUT14 D
LCDOUT12 D
LCDOUT10 D
LCDOUT8 D
CLK27_LCD D
LCDHD D
LCDVD D
PW_D3ROV P SY D HS
PW_EVF2R5V P D
LCD_ROTATE2 D
LCD_OPEN_L D
D_GND P HS R J SY
EVF_RESET D
PW_5R2V P SY
EVF_CS D

参考：TOP_OP回路



TO TOP_OPERATION
FP9002
K1MY18BA0370

G2			
CMD_DIAL_F1	18	CL9007	
CMD_DIAL_F0	17	CL9005	
KURUPON	16	CL9016	
D_GND	15	CL9013	
POWER_LED_K	14	CL9001	
POWER_LED_A	13	CL9008	
POWER_SW	12	CL9010	
BURST_SHUTTER_SEL	11	CL9009	
AD3	10	CL9015	
MOVIE_SEL	9	CL9006	
A3R1V	8	CL9014	
AD2	7	CL9004	
D_GND	6	CL9002	
WIDE	5	CL9003	
ZOOM_SPD_SEL	4	CL9019	
TELE	3	CL9020	
SHUTTER_I	2	CL9021	
SHUTTER_O	1		
G1			

PW_D3ROV P D SY HS
R9080 200
R9072 10k
R9073 10k
R9071 3900
R9074 3900
CMD_DIAL_F1 D
CMD_DIAL_F0 D
PON_ON_L D
POWER_LED_K D
POWER_ON_L SY
BURST_SH D
KEY_IN3 D
MOVIE D
PW_A3R1V P D SY GY MC
KEY_IN2 D
R9075 10K
ZOOM_SPD_SEL D
TELE_WIDE D
SHUTTER_I D
SHUTTER_O SY
C9013 F1G1A1040006 or C9012 F1G1A1040006 10V
D_GND P HS R J SY

TO STROBE
PS9001
K1KB20AA0094

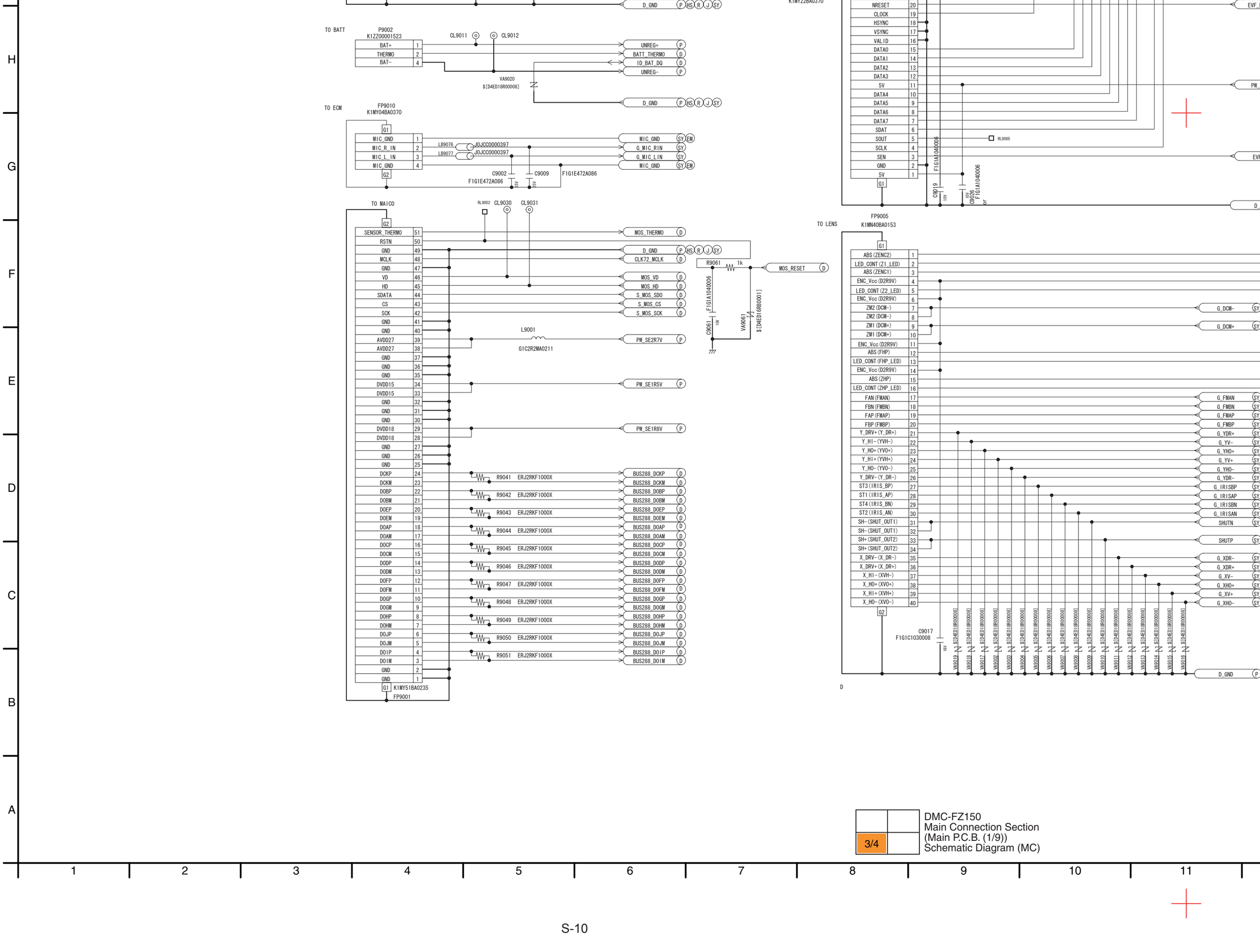
10	STB_PWM_OUT	UNREG	11
9	STROBE_TRG	UNREG	12
8	STB_CHG_LV	UNREG	13
7	PW_3.4V	UNREG	14
6	AF_LED_K	NC	15
5	D_GND	D_GND	16
4	D_GND	D_GND	17
3	D_GND	D_GND	18
2	D_GND	D_GND	19
1	D_GND	D_GND	20

SY STB_PWM_OUT
R9081 1500
D STB_CHG_LV
SY P PW_AF3R4V
SY AF_LED_K
D V7_STB_TRG
R9082 4700
D EXT_STB_ON_L
QR9002
B1GFCFJJ0016
D INT_STB_ON_L
HS EXT_STB_TRG
UNREG P SY
D_GND P HS R J SY

R9033 $[18]
R9083 $
G9001
G9002
PW_SD3ROV_CA1
PW_SD3ROV P
PW_SD3018V P D
R9032 22K
RX9001
D1H84734A024
C9020 F1J1A106A024 or C9001 F1J0J2260004 10V 6.3V
R9031 1k
SDCD SY
SDWP D
SDDAT1 D
SDDAT0 D
SDDAT3 D
SDDAT2 D
SDCMD D
SDCLK D
RX9002
D1H86804A024

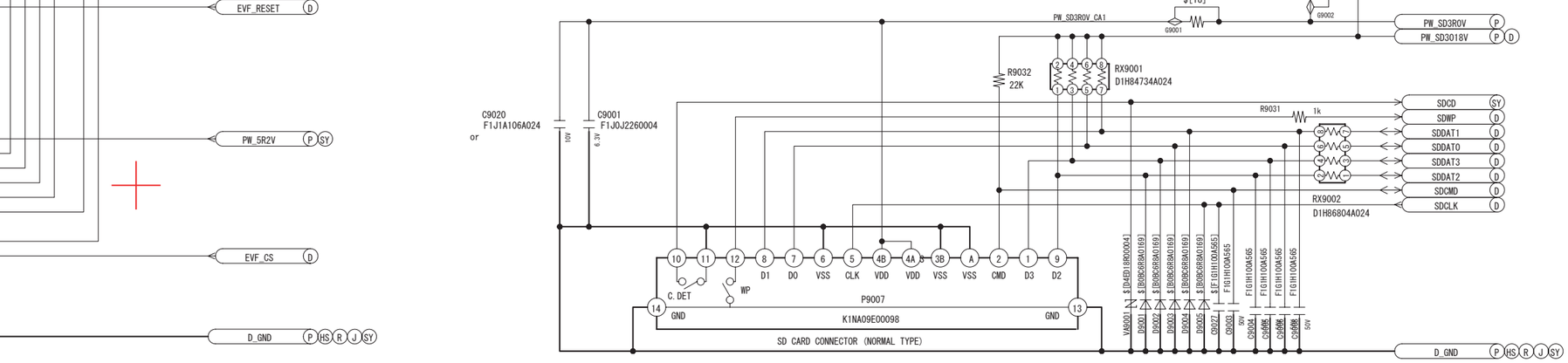
10 11 12 8 7 6 5 4B 4A 3B A 2 1 9
D1 DO VSS CLK VDD VDD VSS VSS CMD D3 D2
C_DET WP
R9007

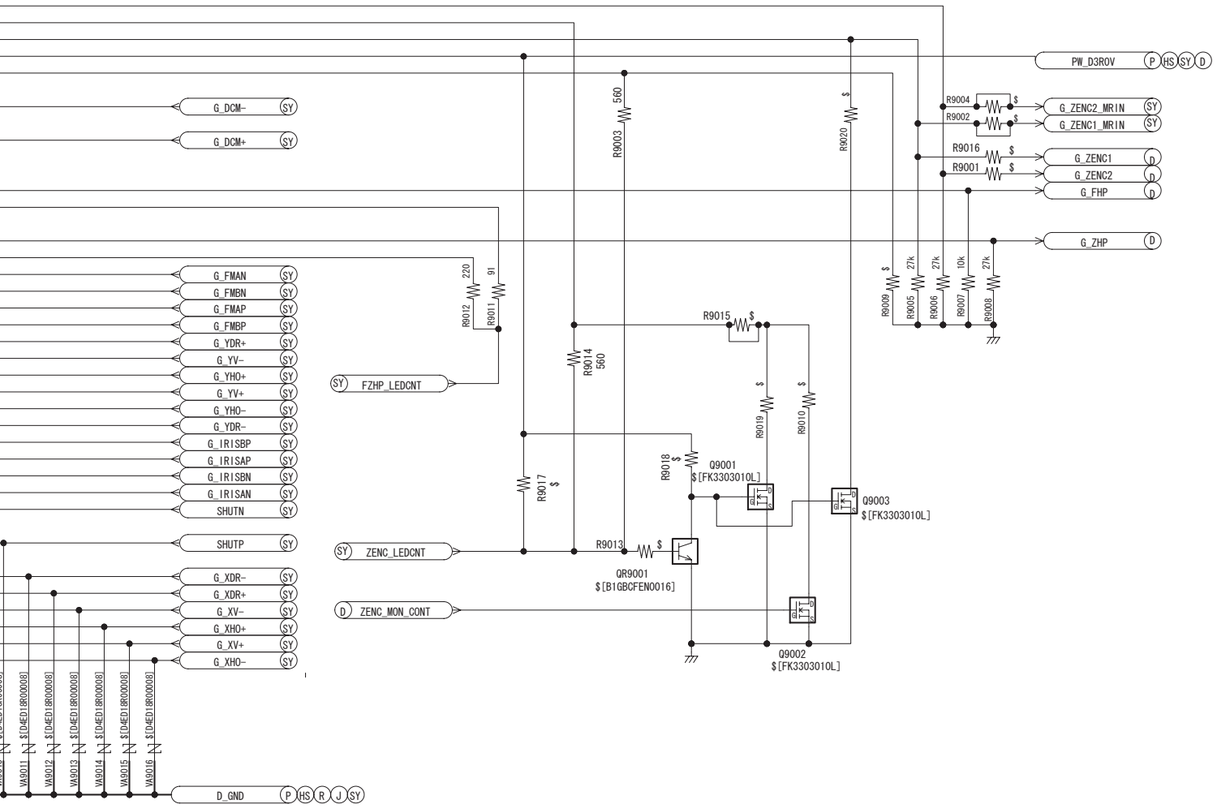
S-9



DMC-FZ150
Main Connection Section
(Main P.C.B. (1/9))
Schematic Diagram (MC)

3/4





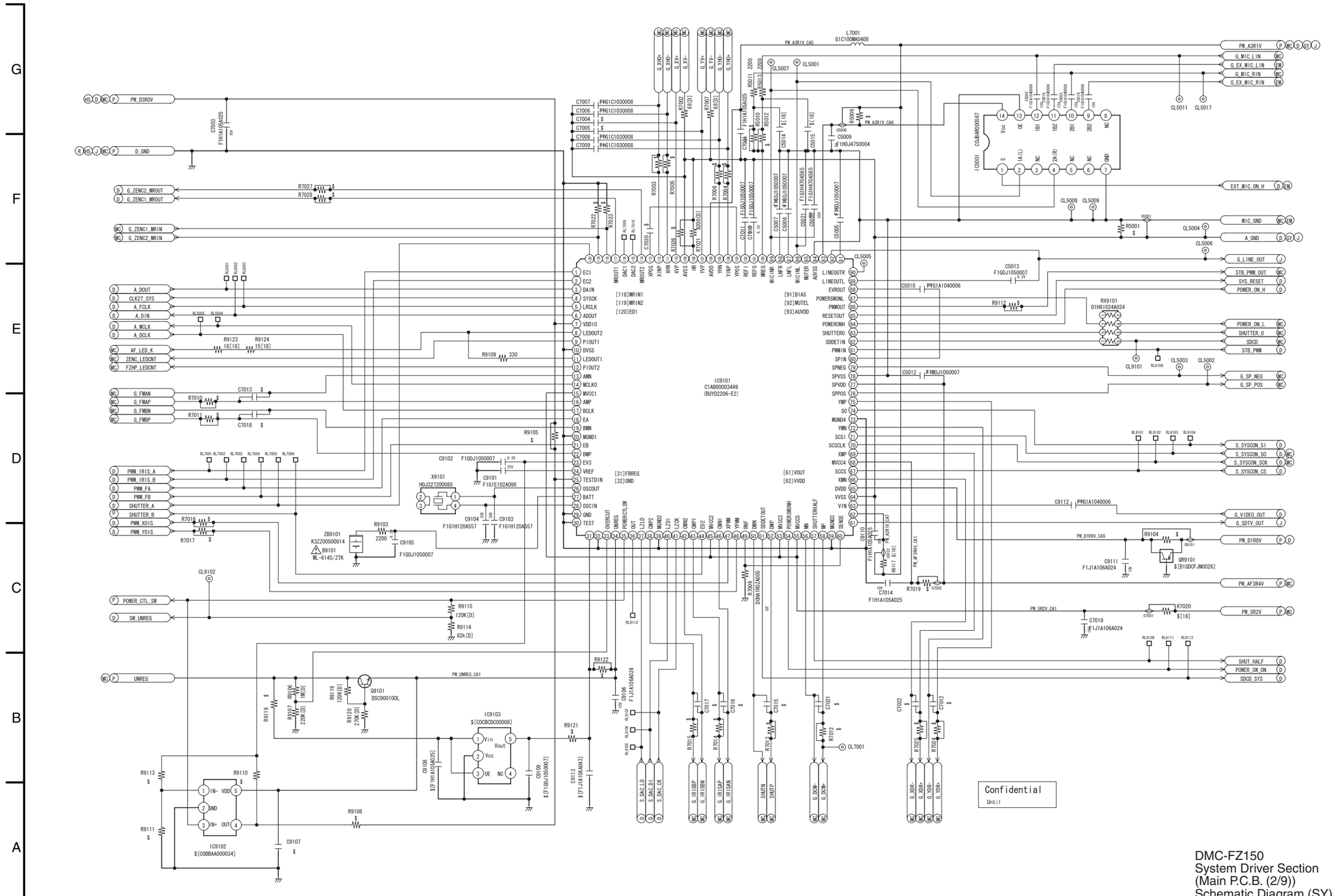
Confidential
Until

DMC-FZ150
Main Connection Section
(Main P.C.B. (1/9))
Schematic Diagram (MC)

4/4

11 12 13 14 15 16 17 18 19 20 21

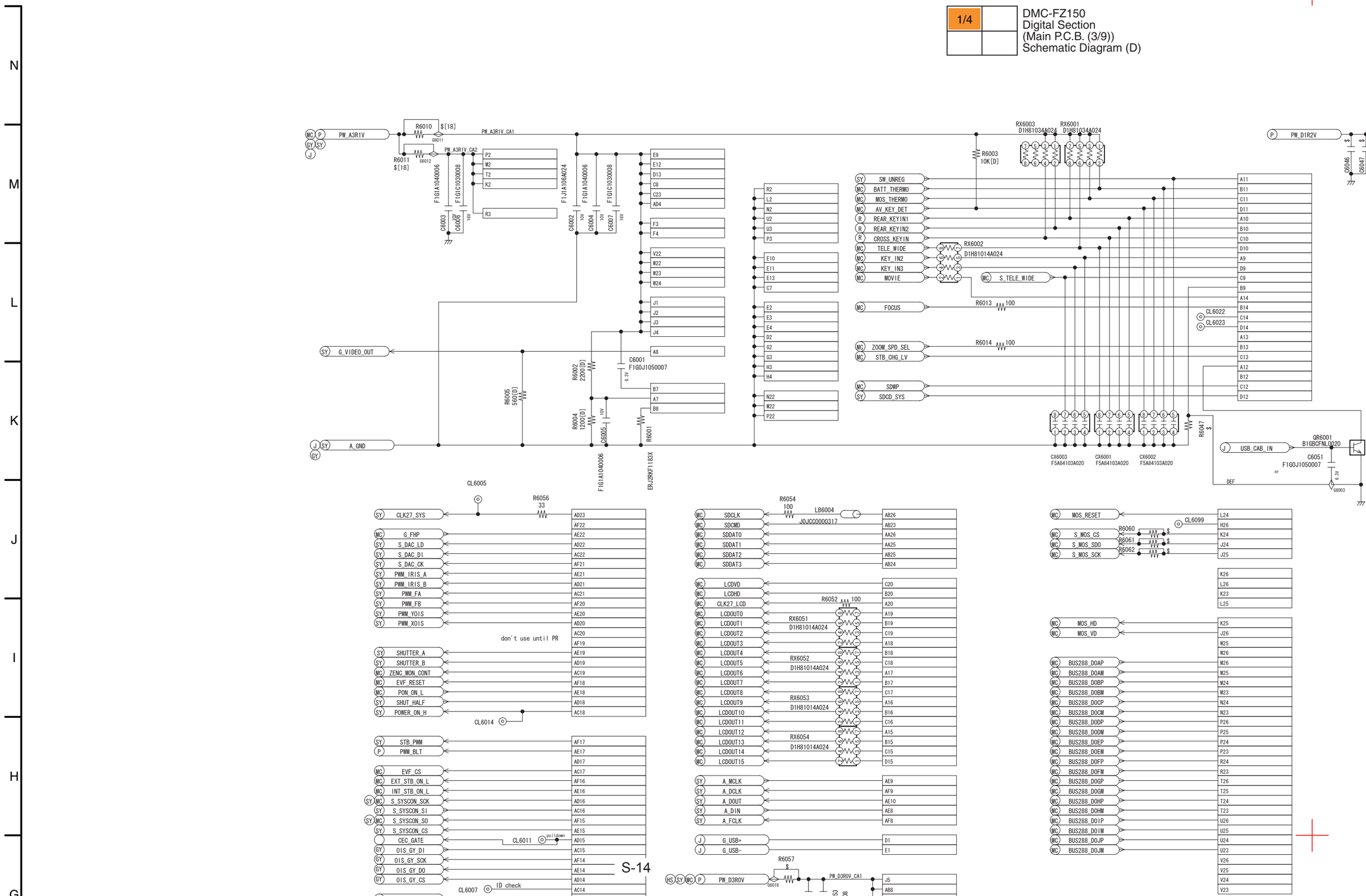
S4.2. System Driver (SY) Schematic Diagram

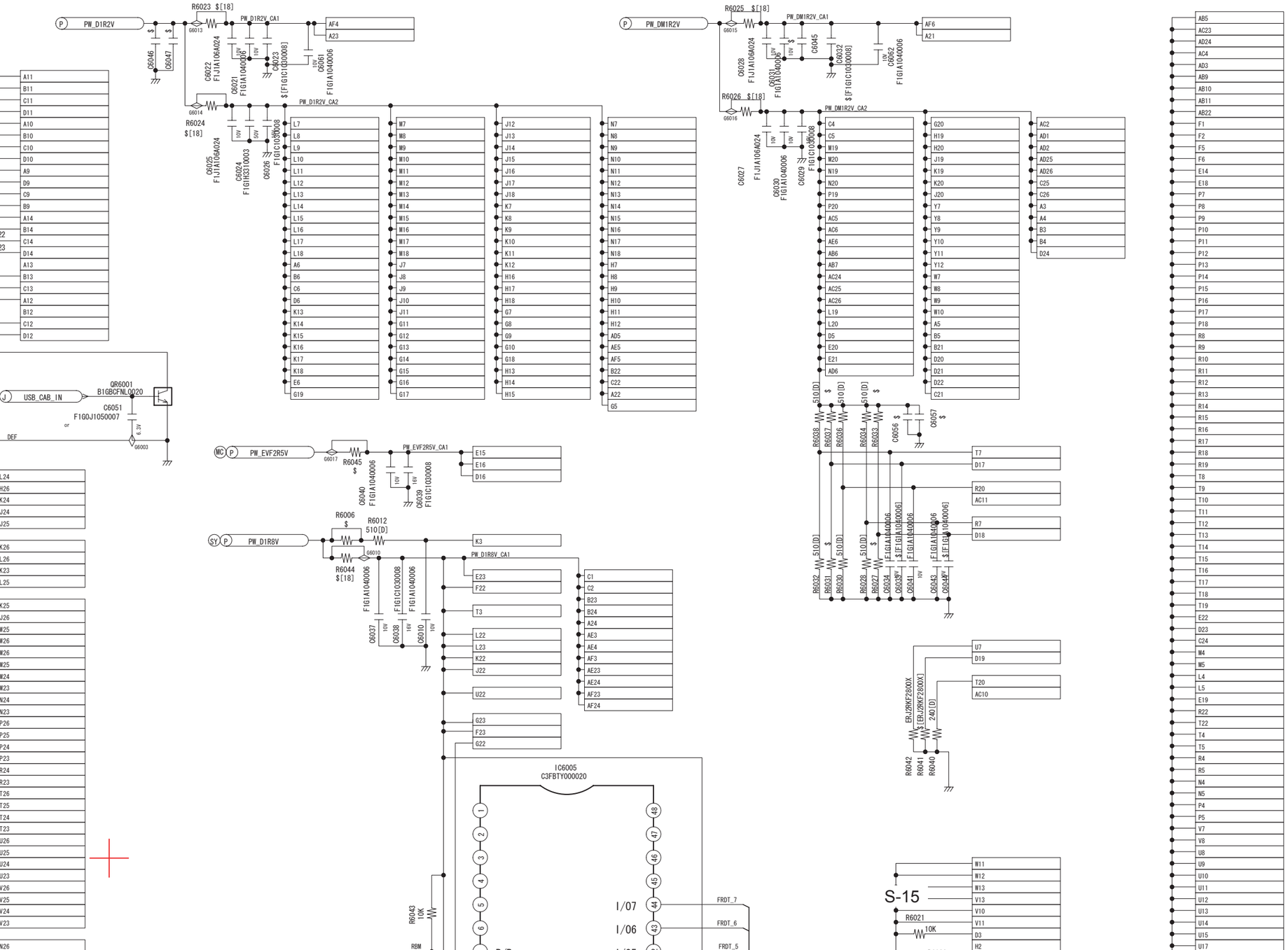


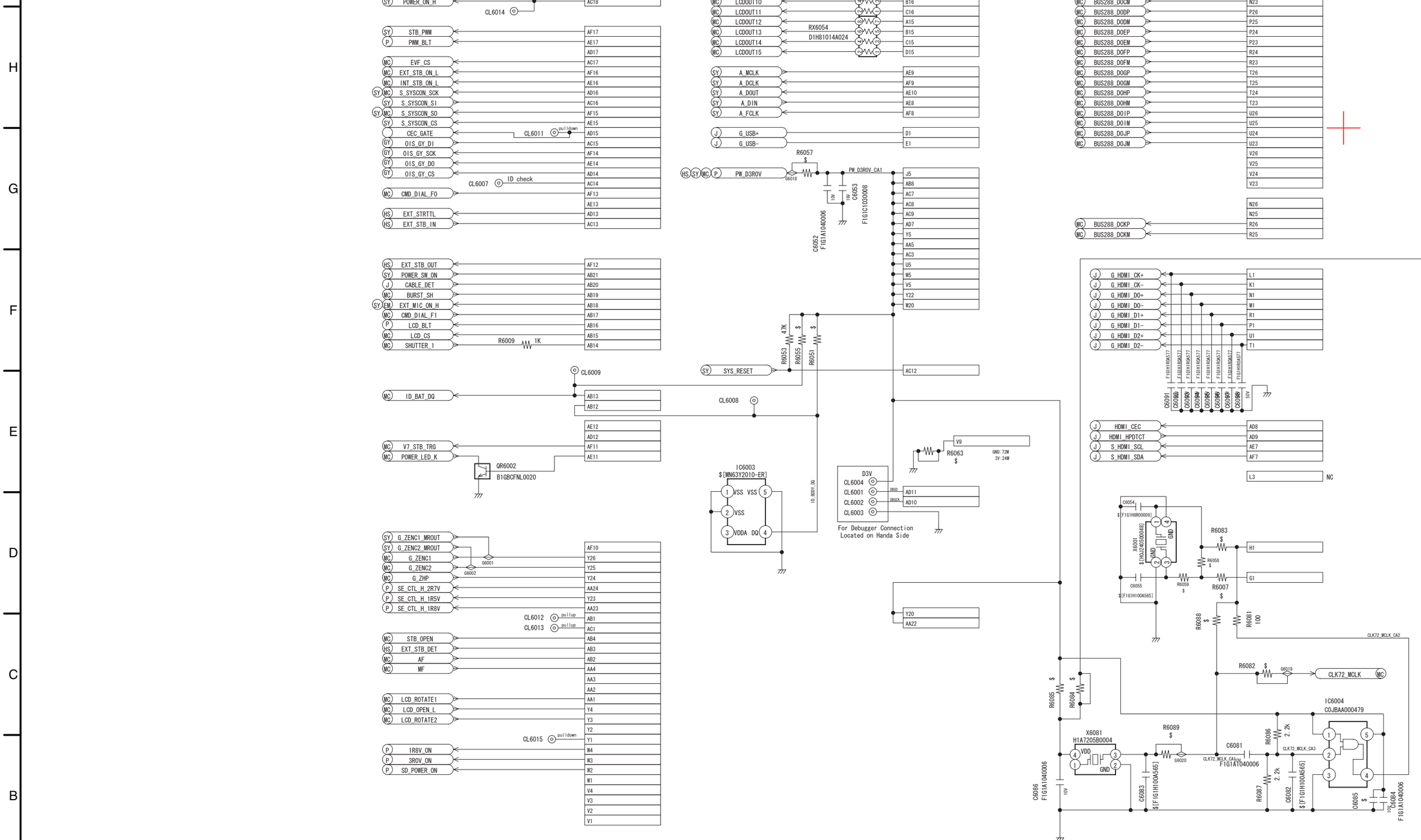
S4.3. Digital (D) Schematic Diagram

1/4

DMC-FZ150
Digital Section
(Main P.C.B. (3/9))
Schematic Diagram (D)

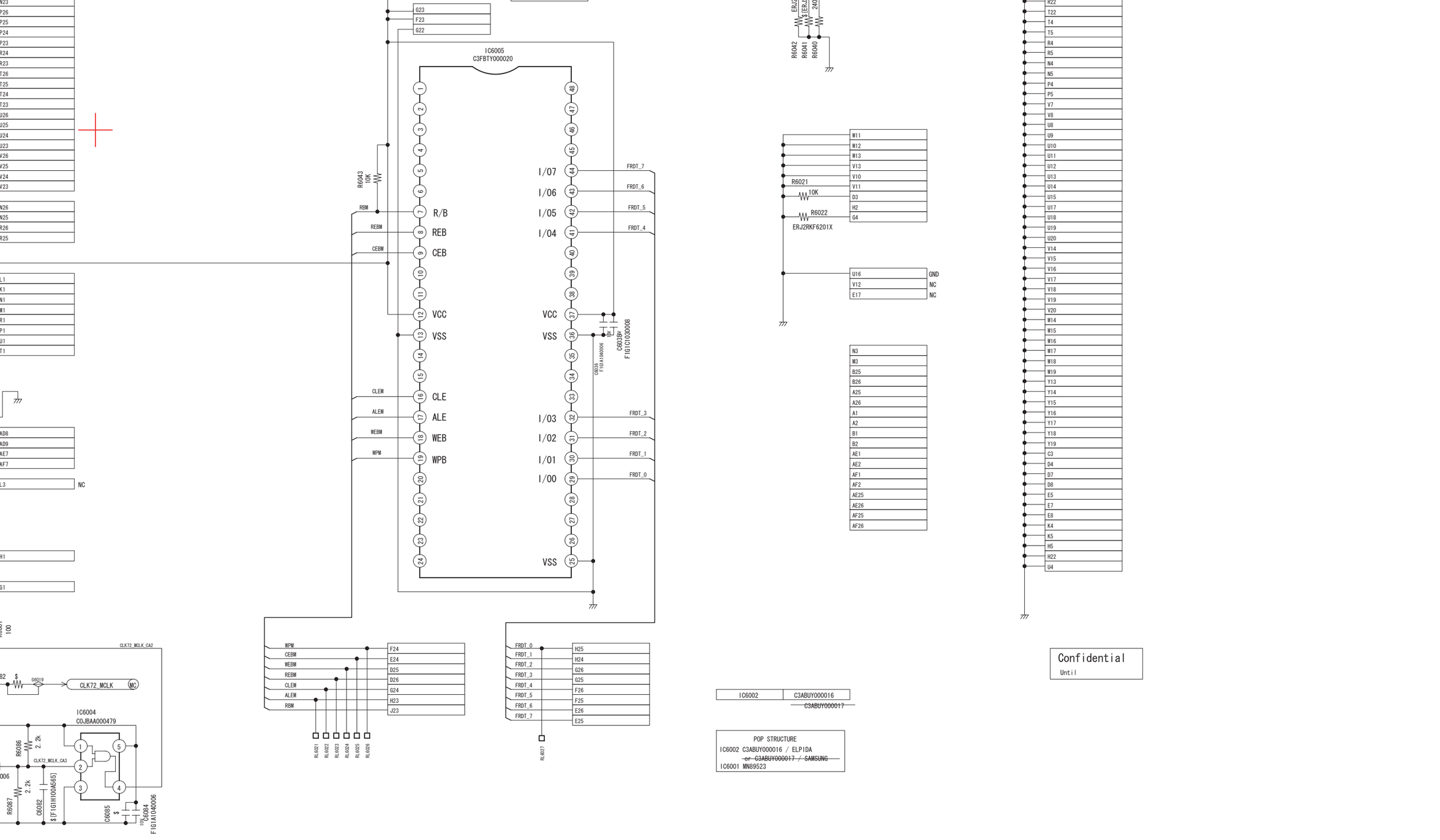



PW_D1R2V
R6023 $[18]
G6013
PW_D1R2V_CA1
AF4
A23
C6046
C6047
C6022 F1J1A106A024
C6021 F1G1A1040006
C6023
C6051 F1G0J1050007
R6024 $[18]
G6014
PW_D1R2V_CA2
C6025 F1J1A106A024
C6024 F1GH3310003
C6026
L7 L8 L9 L10 L11 L12 L13 L14 L15 L16 L17 L18 A6 B6 C6 D6 K13 K14 K15 K16 K17 K18 E6 G19
M7 M8 M9 M10 M11 M12 M13 M14 M15 M16 M17 M18 J7 J8 J9 J10 J11 G11 G12 G13 G14 G15 G16 G17
J12 J13 J14 J15 J16 J17 J18 K7 K8 K9 K10 K11 K12 H16 H17 H18 G7 G8 G9 G10 G18 H13 H14 H15
N7 N8 N9 N10 N11 N12 N13 N14 N15 N16 N17 N18 H7 H8 H9 H10 H11 H12 AD5 AE5 AF5 B22 C22 A22 G5
A11 B11 C11 D11 A10 B10 C10 D10 A9 D9 C9 B9 A14 B14 C14 D14 A13 B13 C13 A12 B12 C12 D12
USB_CAB_IN
QR6001 B1GBCFNL0020
L24 H26 K24 J24 J25
K26 L26 K23 L25
K25 J26 W25 W26 M26 M25 M24 M23 N24 N23 P26 P25 P24 P23 R24 R23 T26 T25 T24 T23 U26 U25 U24 U23 V26 V25 V24 V23
N26
PW_EVF2R5V
R6045 $
G6017
PW_EVF2R5V_CA1
C6040 F1G1A1040006
C6039 F1G1C1030008
E15 E16 D16
R6006 $
R6012 510[D]
R6044 $[18]
G6010
PW_D1R8V
PW_D1R8V_CA1
C6037 C6038 C6010
K3
E23 F22 T3 L22 L23 K22 J22 U22 G23 F23 G22
C1 C2 B23 B24 A24 AE3 AE4 AF3 AE23 AE24 AF23 AF24
IC6005
C3FBTY000020
I/07
I/06
FRDT_7
FRDT_6
FRDT_5
R6043 10K
RBM
PW_DM1R2V
R6025 $[18]
G6015
PW_DM1R2V_CA1
AF6
A21
C6028 F1J1A106A024
C6031 F1G1A1040006
C6045
C6032 $[F1G1C1030008]
C6062 F1G1A1040006
R6026 $[18]
G6016
PW_DM1R2V_CA2
C6027 F1J1A106A024
C6030 F1G1A1040006
C6029 F1G1C1030008
C4 C5 M19 M20 N19 N20 P19 P20 AC5 AC6 AE6 AB6 AB7 AC24 AC25 AC26 L19 L20 D5 E20 E21 AD6
G20 H19 H20 J19 K19 K20 J20 Y7 Y8 Y9 Y10 Y11 Y12 W7 W8 W9 W10 A5 B5 B21 D20 D21 D22 C21
AC2 AD1 AD2 AD25 AD26 C25 C26 A3 A4 B3 B4 D24
R6038 R6037 R6036 R6034 R6033 R6032 R6031 R6030 R6028 R6027 510[D]
C6056 C6057
T7 D17 R20 AC11 R7 D18
C6034 C6033 C6041 C6043 C6044
U7 D19 T20 AC10
ERJ2RKF2800X
ERJ2RKF2800X[ ]
240[D]
R6042 R6041 R6040
S-15
R6021 10K
W11 W12 W13 V13 V10 V11 D3 H2
AB5 AC23 AD24 AC4 AD3 AB9 AB10 AB11 AB22 F1 F2 F5 F6 E14 E18 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 P17 P18 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 E22 D23 C24 M4 M5 L4 L5 E19 R22 T22 T4 T5 R4 R5 N4 N5 P4 P5 V7 V8 U8 U9 U10 U11 U12 U13 U14 U15 U17

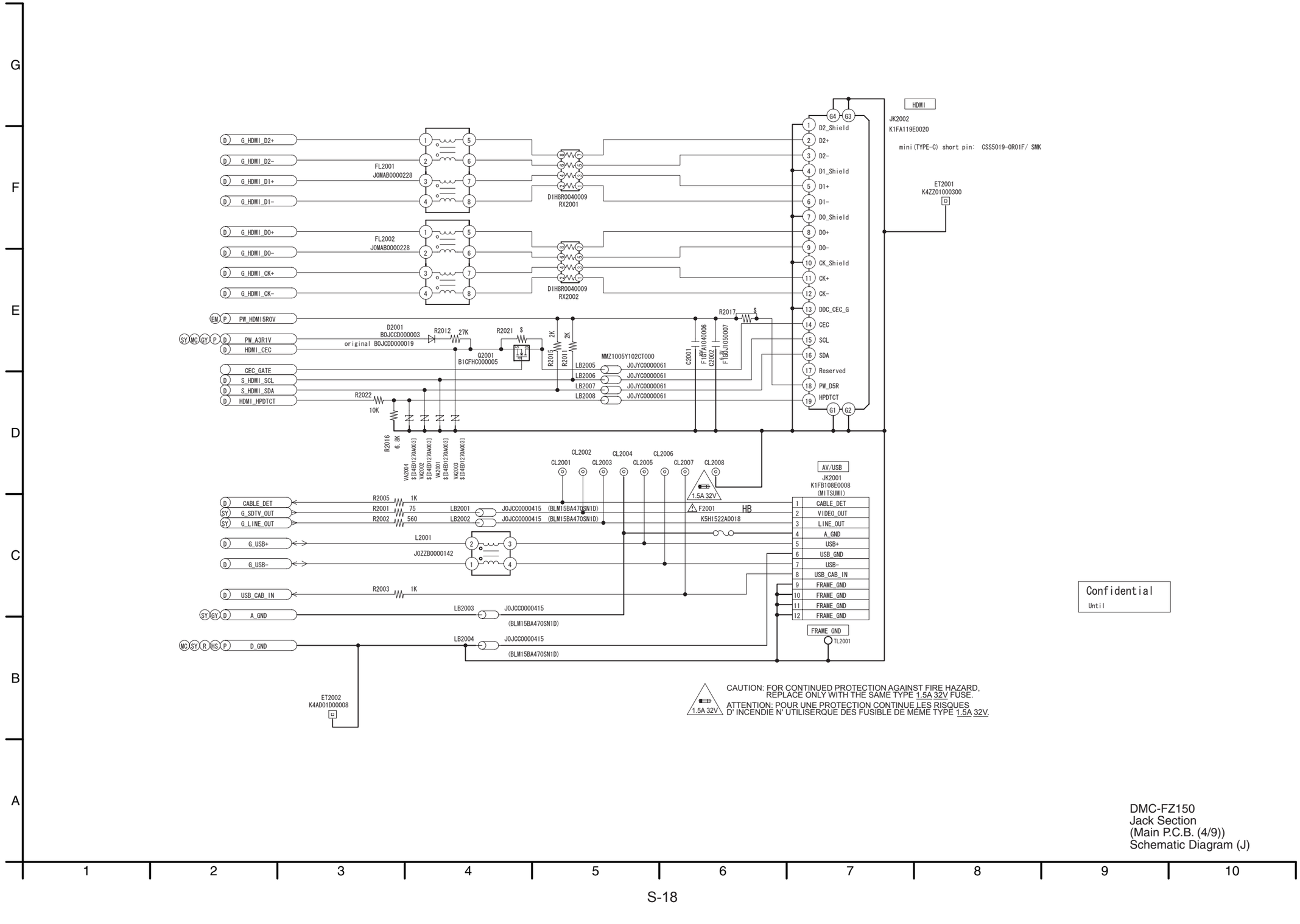


3/4	

DMC-FZ150
Digital Section
(Main P.C.B. (3/9))
Schematic Diagram (D)


IC6005
C3FBTY000020
R/B
REB
CEB
VCC
VSS
CLE
ALE
WEB
WPB
I/07
I/06
I/05
I/04
I/03
I/02
I/01
I/00
R6043 10K
R6021 10K
R6022 ERJ2RKF6201X
ERJ2RKF2400X
R6042
R6041
R6040
C6036 F1E0J1040006
C6038 F1G1C1030008
IC6004
C0JBAA000479
R6086 2.2k
R6087 2.2k
C6082 $1F1G1H1004565
C6085 $
C6084 F1G1A1040006
G6019
CLK72_MCLK
CLK72_MCLK_CA2
CLK72_MCLK_CA3
RBM
REBM
CEBM
CLEM
ALEM
WEBM
WPM
FRDT_7
FRDT_6
FRDT_5
FRDT_4
FRDT_3
FRDT_2
FRDT_1
FRDT_0
G23
F23
G22
W11
W12
W13
V13
V10
V11
D3
H2
G4
U16 GND
V12 NC
E17 NC
N3
M3
B25
B26
A25
A26
A1
A2
B1
B2
AE1
AE2
AF1
AF2
AE25
AE26
AF25
AF26
R22
T22
T4
T5
R4
R5
N4
N5
P4
P5
V7
V8
U8
U9
U10
U11
U12
U13
U14
U15
U17
U18
U19
U20
V14
V15
V16
V17
V18
V19
V20
W14
W15
W16
W17
W18
W19
Y13
Y14
Y15
Y16
Y17
Y18
Y19
C3
D4
D7
D8
E5
E7
E8
K4
K5
H5
H22
U4
WPM F24
CEBM E24
WEBM D25
REBM D26
CLEM G24
ALEM H23
RBM J23
RL6021
RL6022
RL6023
RL6024
RL6025
RL6026
FRDT_0 H25
FRDT_1 H24
FRDT_2 G26
FRDT_3 G25
FRDT_4 F26
FRDT_5 F25
FRDT_6 E26
FRDT_7 E25
RL6027
IC6002 C3ABUY000016 ~~C3ABUY000017~~
POP STRUCTURE
IC6002 C3ABUY000016 / ELPIDA
~~or C3ABUY000017 / SAMSUNG~~
IC6001 MN89523
Confidential
Until
DMC-FZ150
Digital Section
(Main P.C.B. (3/9))
Schematic Diagram (D)
4/4
11
12
13
14
15
16
17
18
19
20
21

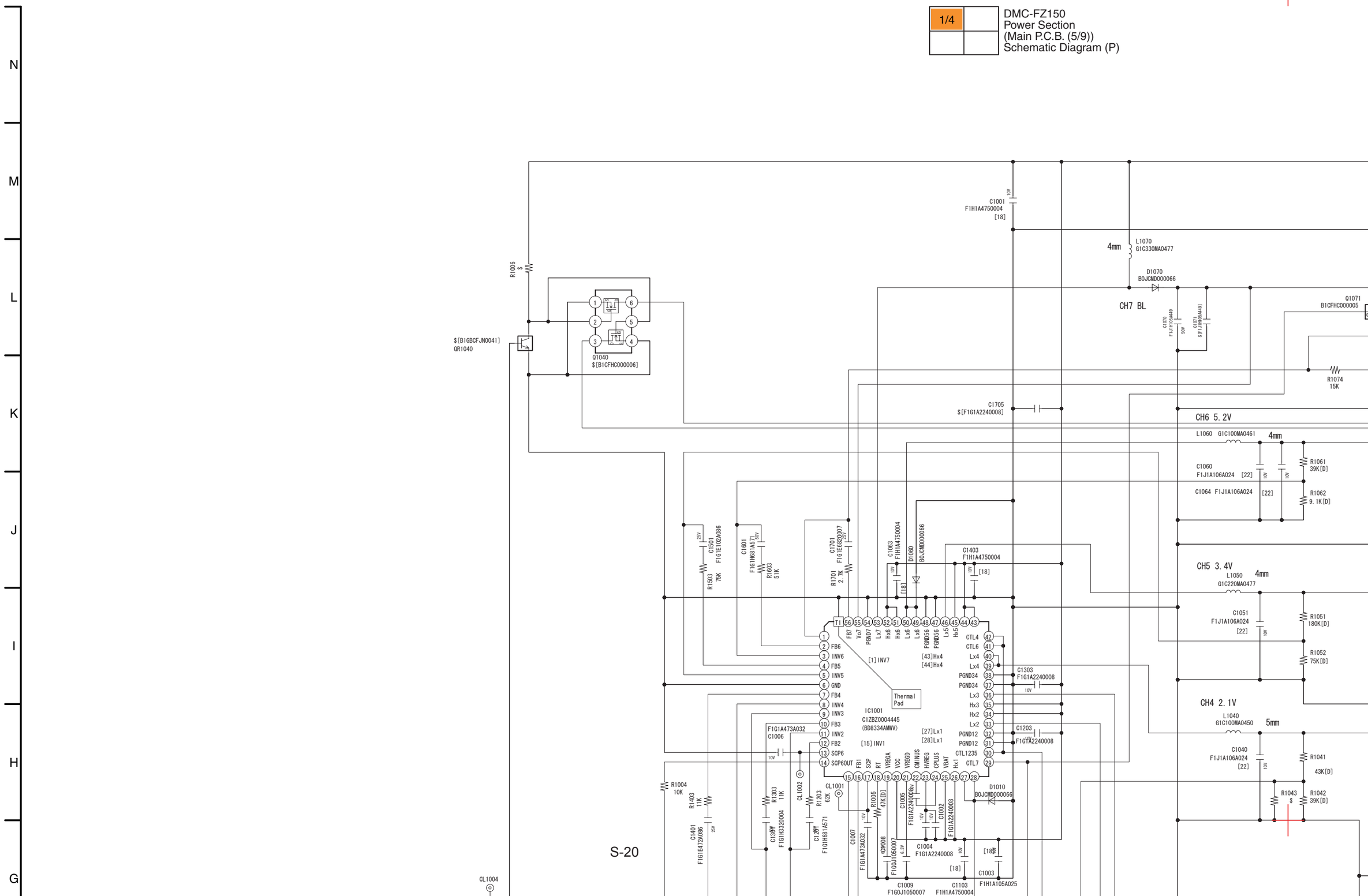
S4.4. Jack (J) Schematic Diagram



S4.5. Power (P) Schematic Diagram

1/4	

DMC-FZ150
Power Section
(Main P.C.B. (5/9))
Schematic Diagram (P)



CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2.5A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÊME TYPE 2.5A 32V.

2.5A 32V

2.5A 32V

LB1001
J0JG00000038

F1001
K5H252YA0080

UNREG+ (MC)
UNREG (MC SY)
UNREG- (MC)
D_GND (MC SY J R HS)
PW_BL_MINUS (MC)
PW_BL_PLUS (MC)
PWM_BLT (D)

R1003
$[18]
G1002
G1001

CL1072
CL1071
CL1073

$
R1070

Q1071
B1CFHC000005

R1071
100K
R1075
22K
C1073
F1G1A1040006
R1074
15K
R1072
10[D]

CH6 5.2V

L1060 G1C100MA0461 4mm
C1060
F1J1A106A024 [22]
C1064 F1J1A106A024 [22]
R1061
39K[D]
R1062
9.1K[D]

(5.0V)
IC1061 C0DBGYY02186
CE VIN VSS VOUT
C1061
F1H1A105A025
C1062
F1H1A105A025

CL1061
CL1062
PW_5R2V (MC SY)
PW_HDMI5R0V (EM J)
$
R1060

CH5 3.4V

L1050 G1C220MA0477 4mm
C1051
F1J1A106A024 [22]
R1051
180K[D]
R1052
75K[D]

IC1051 C0DBGYY01180
(3.1V)
CE Vin Vss Vout Thermal Pad
C1511
F1H1A105A025
C1512
F1H1A105A025
C1522
$[F1H1A105A028]

CL1051
PW_AF3R4V (MC SY)
PW_A3R1V (D SY GY MC J)
$
R1050
R1053

CH4 2.1V

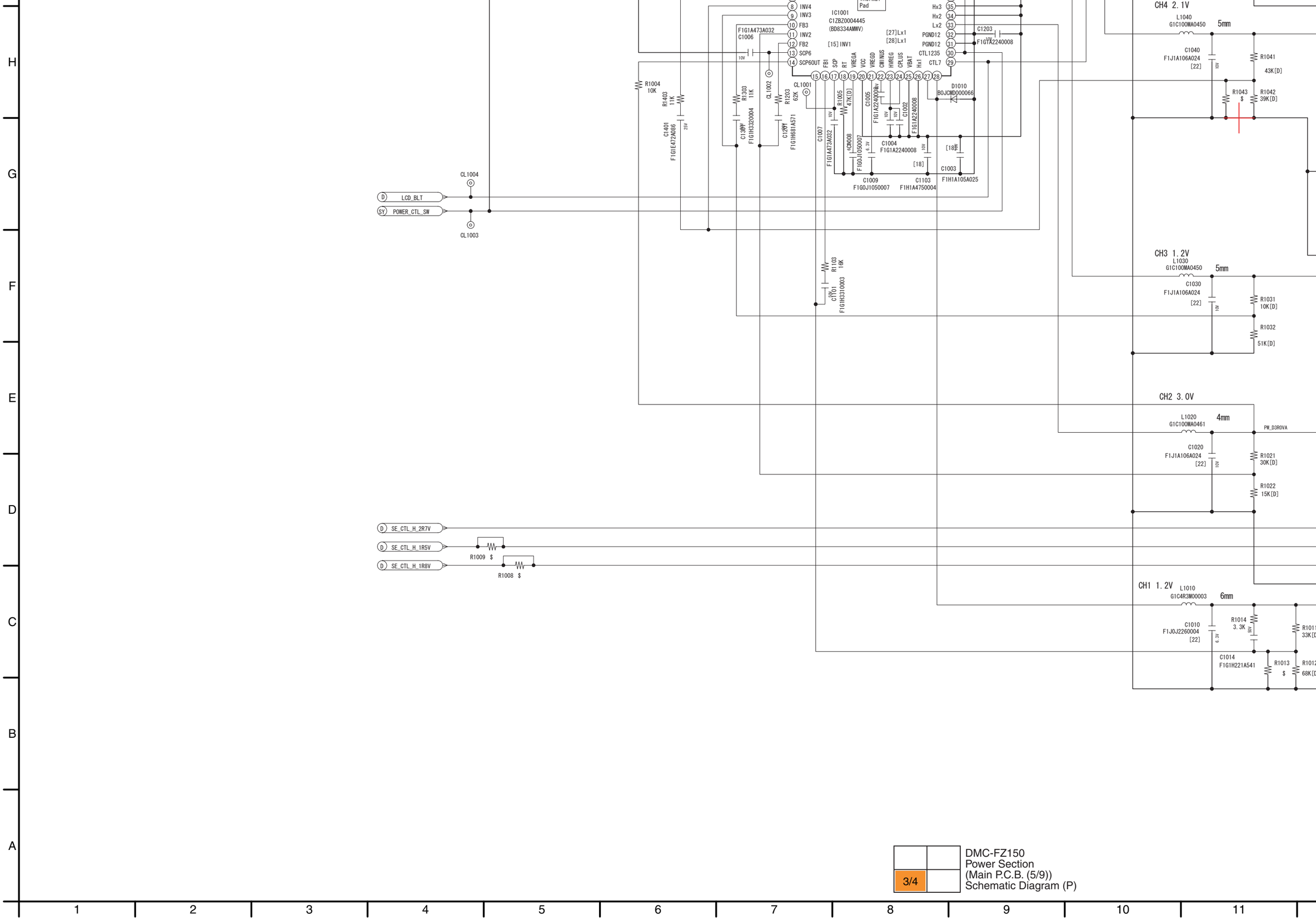
L1040
G1C100MA0450 5mm
C1040
F1J1A106A024 [22]
R1041
43K[D]
R1043
$
R1042
39K[D]

SENSOR DCDC1R5V
未実装に変更
IC1044 $[C0DBAYY01084]
CE Vout Vss Vss Vin LX
CL1045
CL1046
CL1047
L1042
$[G1C4R7MA0477]
C1045
$[F1H1A4750004]
[18]

IC1041 C0DBGYY00779
(1.8V)
CE Vss Vin Vout
IC1042 C0DBGYY00779
(1.8V)
CE Vss Vin Vout
IC1043 C0DBGYY00774
(1.5V)

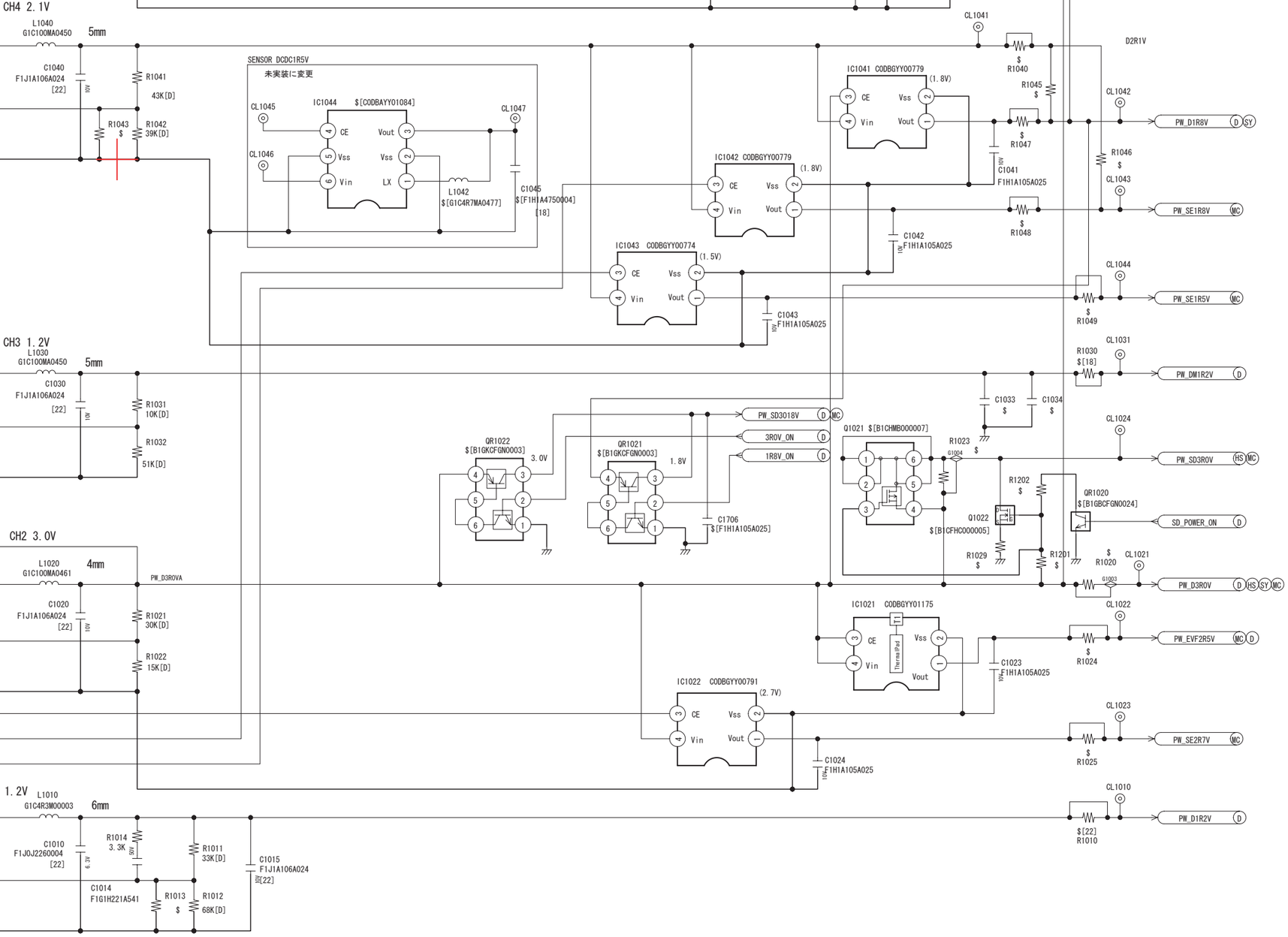
CL1041
D2R1V
$
R1040
R1045
$
R1047
C1041
F1H1A105A025
R1048
C1042
F1H1A105A025
R1046
$
CL1042
CL1043
PW_D1R8V (D SY)
PW_SE1R8V (MC)

S-21



DMC-FZ150
Power Section
(Main P.C.B. (5/9))
Schematic Diagram (P)

3/4

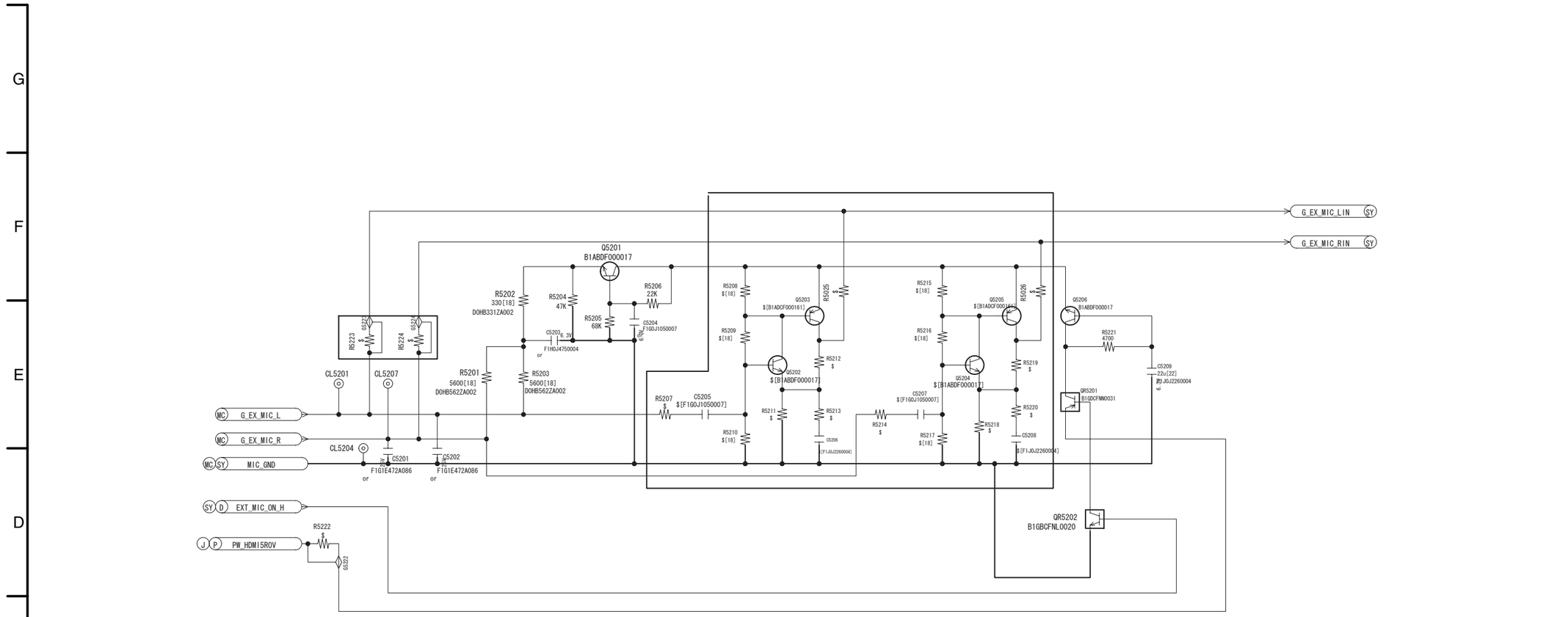


Confidential
Until

DMC-FZ150
Power Section
(Main P.C.B. (5/9))
Schematic Diagram (P)
4/4

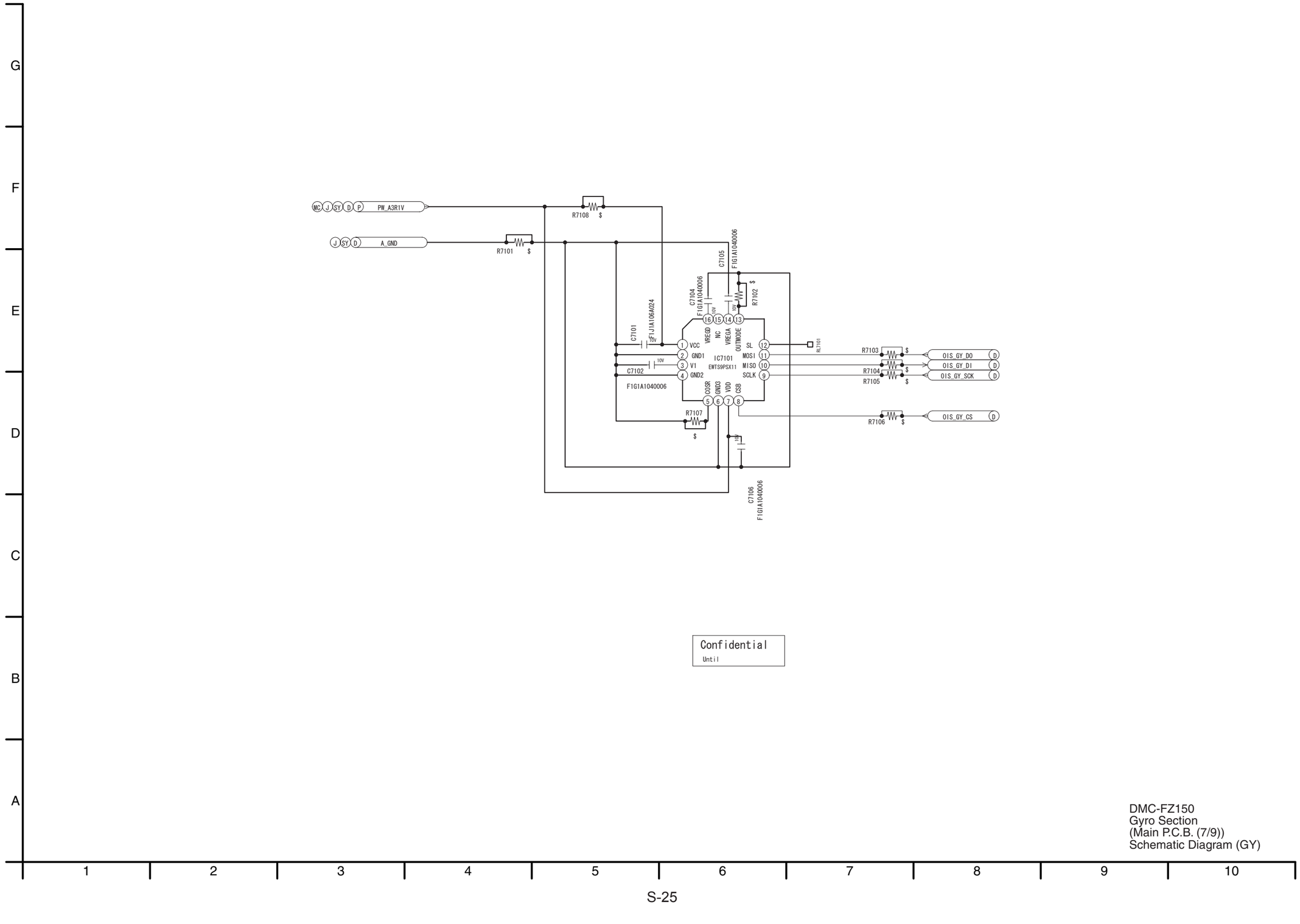
11 12 13 14 15 16 17 18 19 20 21

S4.6. EXT MIC (EM) Schematic Diagram

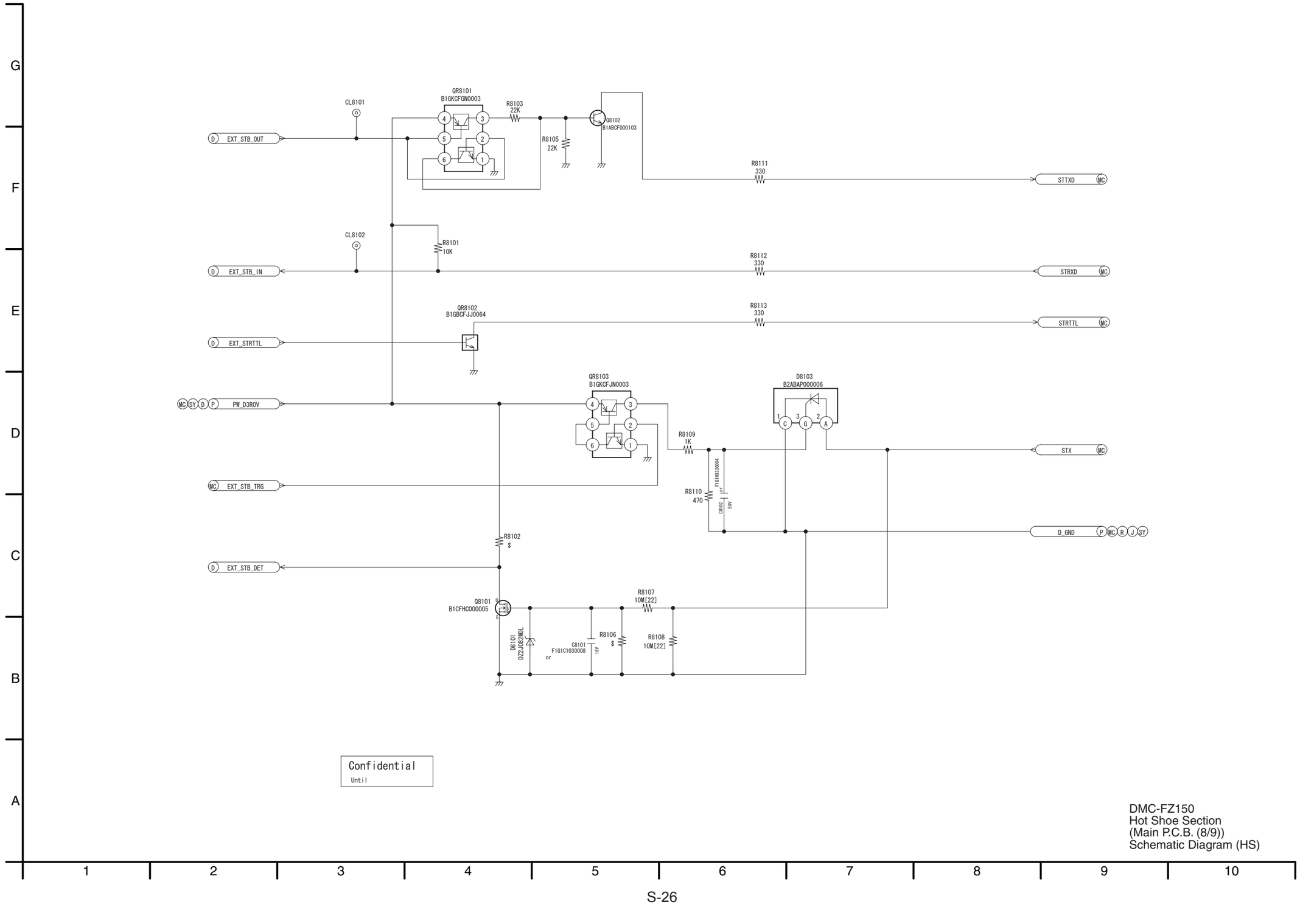


DMC-FZ150
EXT MIC Section
(Main P.C.B. (6/9))
Schematic Diagram (EM)

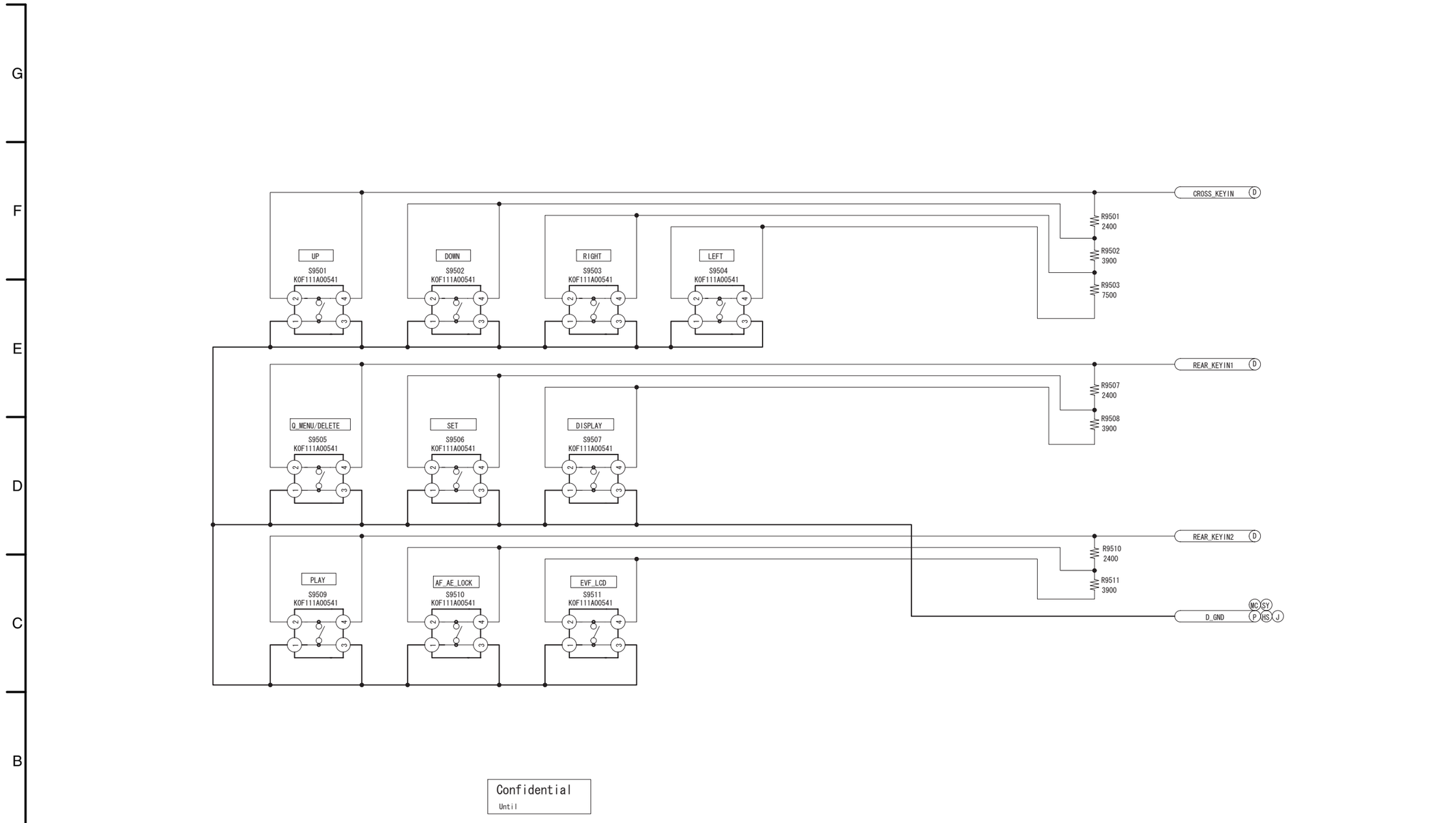
S4.7. Gyro (GY) Schematic Diagram



S4.8. Hot Shoe (HS) Schematic Diagram



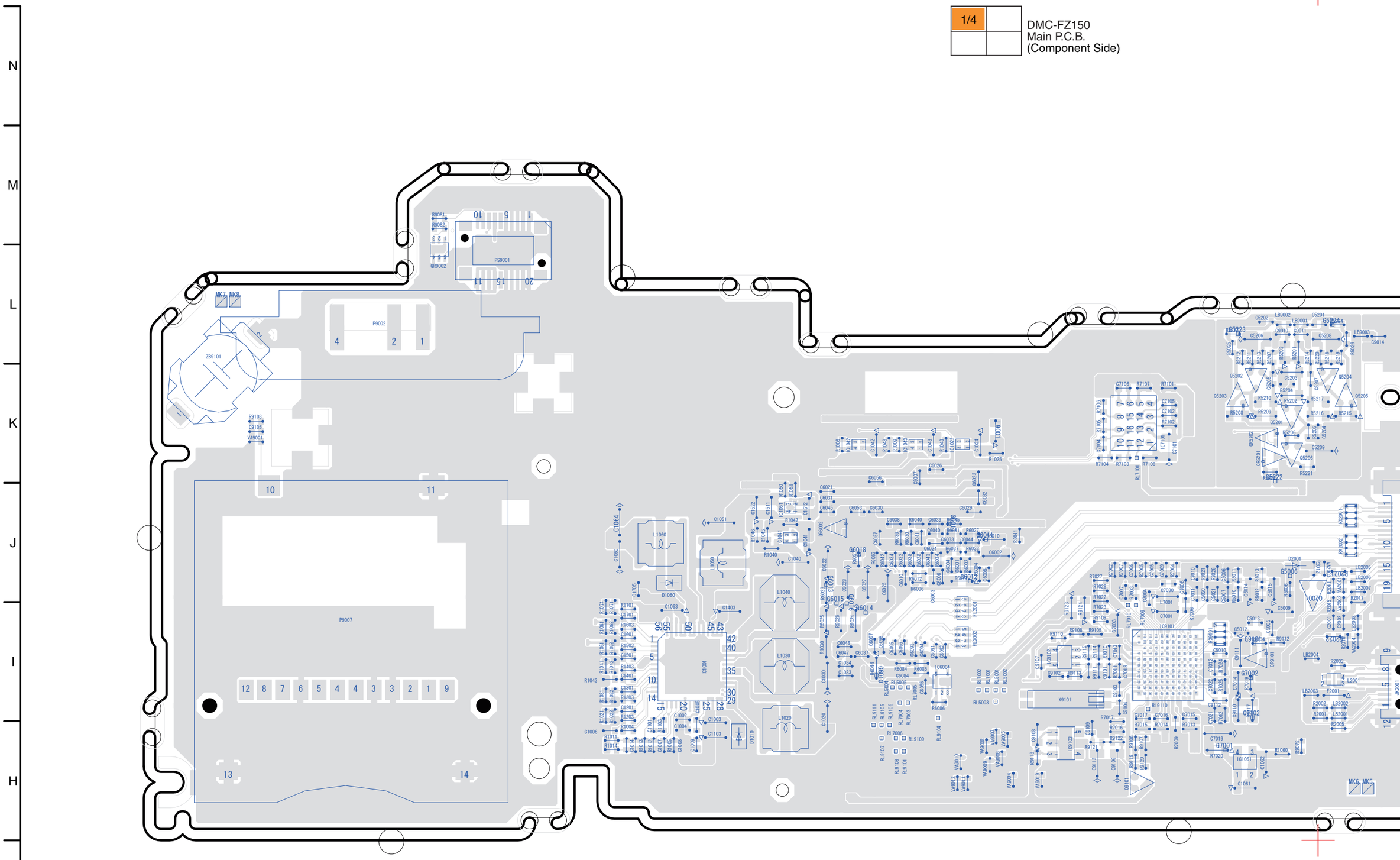
S4.9. Rear Operation (R) Schematic Diagram



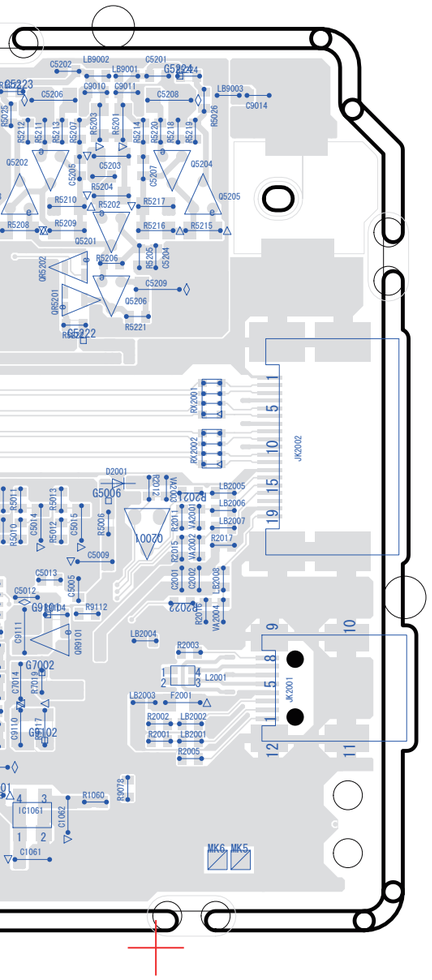
S5. Print Circuit Board

S5.1. Main P.C.B.

S5.1.1. Main P.C.B.



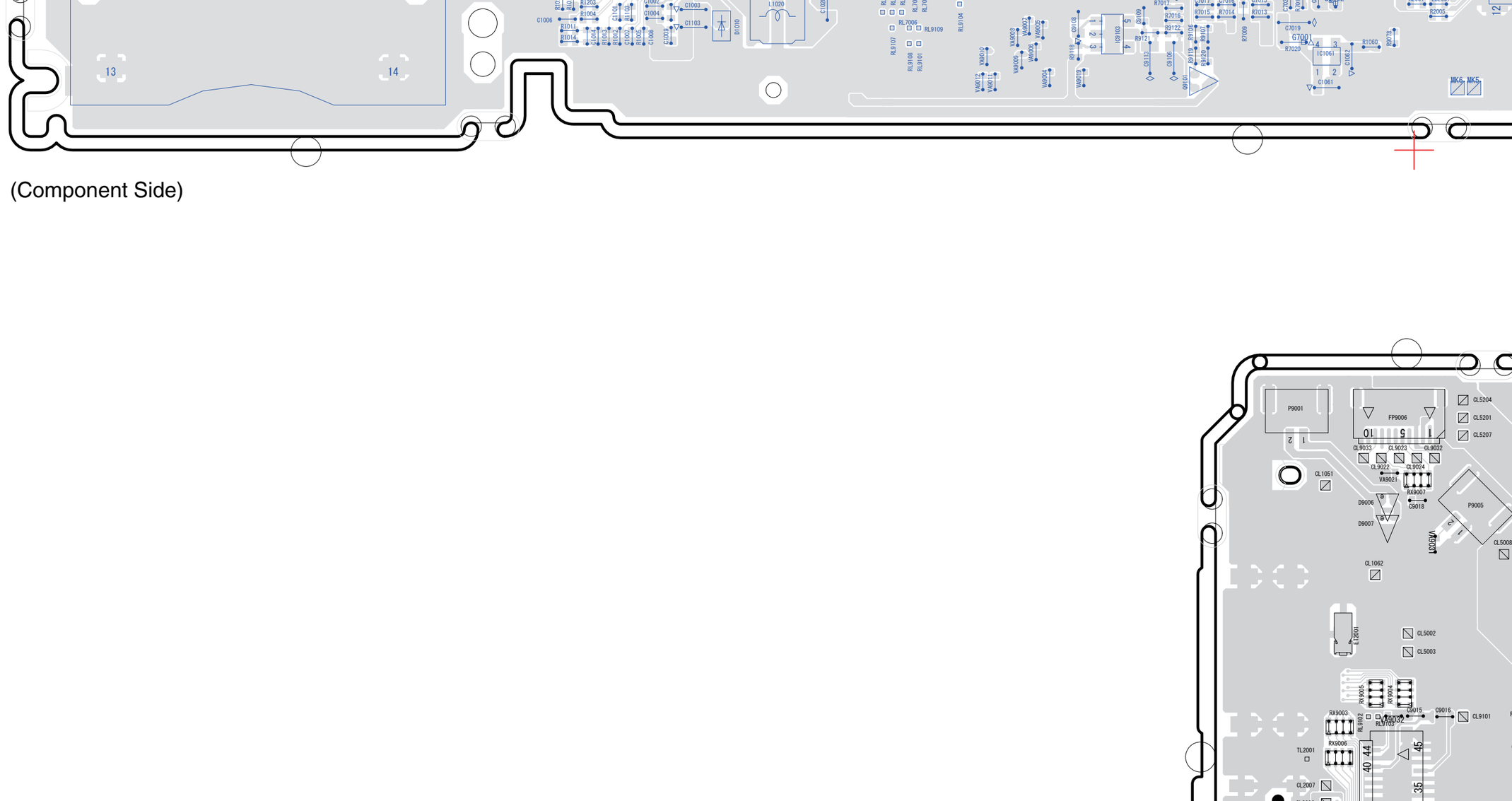
(Component Side)



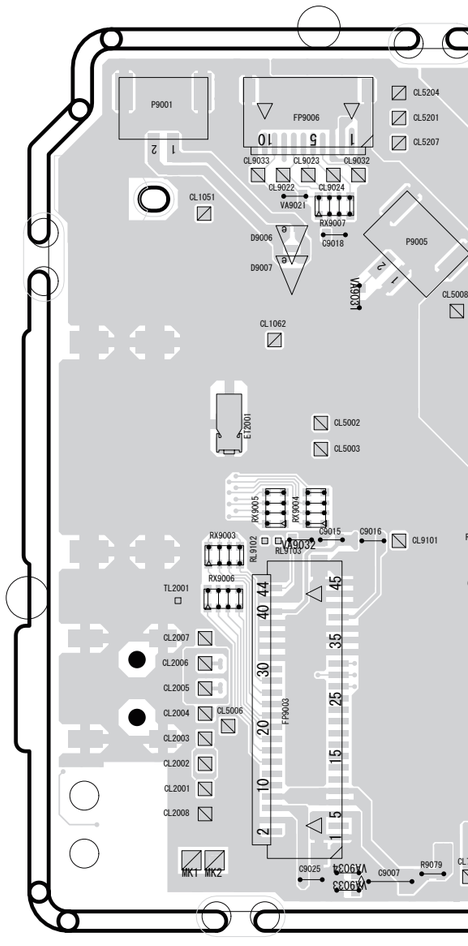
S-29

2/4

DMC-FZ150
Main P.C.B.
(Component Side)



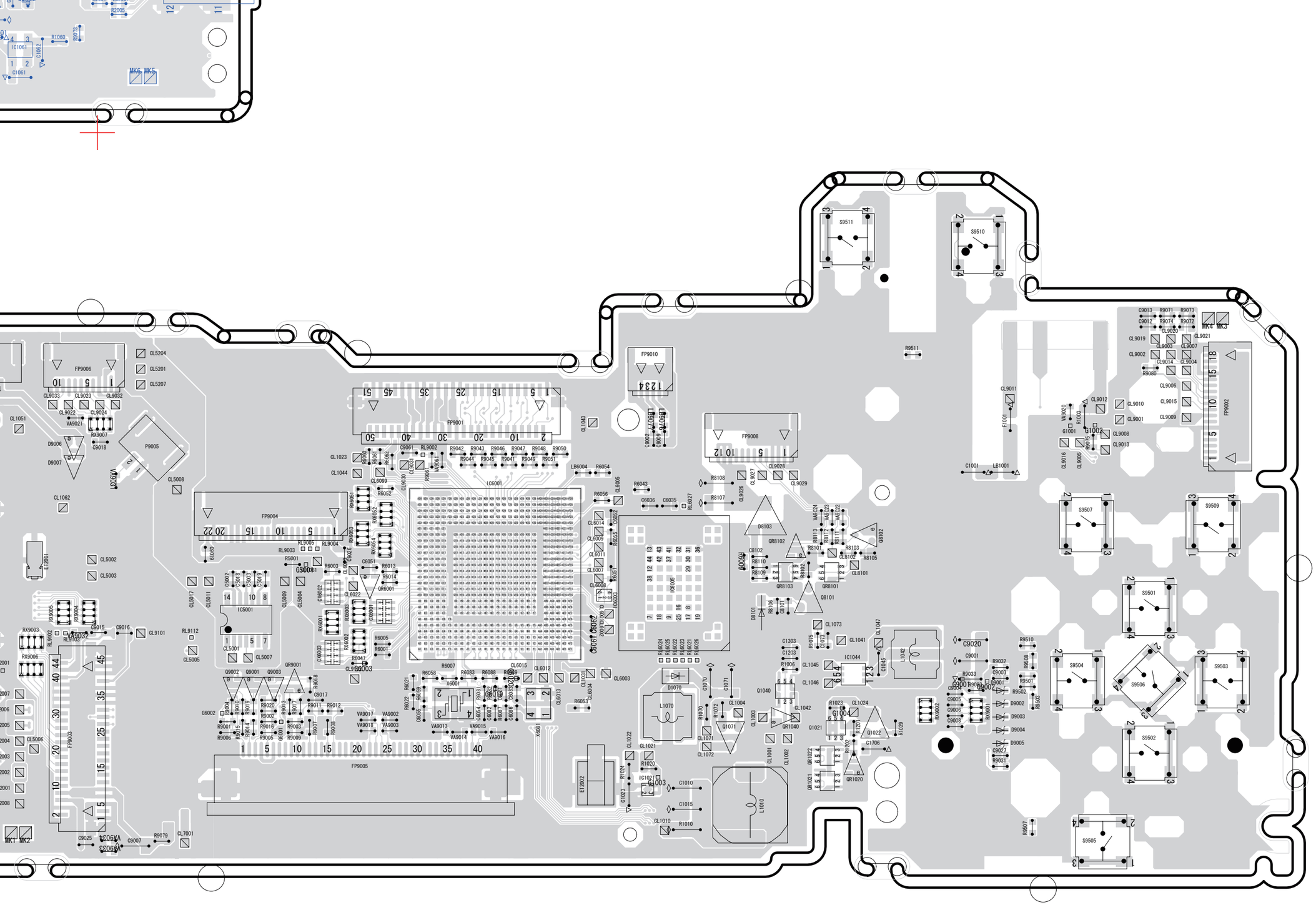
(Component Side)



(Foil Side)

3/4

DMC-FZ150
Main P.C.B.
(Foil Side)



DMC-FZ150
Main P.C.B.
(Foil Side)

4/4

S5.1.2. Main P.C.B. Address Information

Main P.C.B. (1/2)

Integrated Circuit		
IC1001	I-6	C
IC1021	B-15	F
IC1022	K-8	C
IC1041	J-7	C
IC1042	K-7	C
IC1043	K-8	C
IC1044	C-17	F
IC1051	J-7	C
IC1061	H-10	C
IC5001	D-12	F
IC6001	E-14	F
IC6003	D-15	F
IC6004	I-8	C
IC6005	D-15	F
IC7101	K-10	C
IC9101	I-10	C
IC9102	I-9	C
IC9103	H-9	C

Transistor		
Q1021	C-17	F
Q1022	C-17	F
Q1040	C-16	F
Q1071	C-16	F
Q2001	J-11	C
Q5201	K-11	C
Q5202	K-11	C
Q5203	K-10	C
Q5204	K-11	C
Q5205	K-11	C
Q5206	K-11	C
Q8101	D-16	F
Q8102	D-17	F
Q9001	C-12	F
Q9002	C-12	F
Q9003	C-12	F
Q9101	H-10	C

Transistor-resistor		
QR1020	B-17	F
QR1021	B-17	F
QR1022	C-17	F
QR1040	C-16	F
QR5201	K-11	C
QR5202	K-11	C
QR6001	D-13	F
QR6002	J-7	C
QR8101	D-17	F
QR8102	D-16	F
QR8103	D-16	F
QR9001	C-13	F
QR9002	L-4	C
QR9101	I-11	C

Test Point		
CL1001	C-16	F
CL1002	C-16	F
CL1003	C-16	F
CL1004	C-16	F
CL1010	B-15	F
CL1021	C-15	F
CL1022	C-15	F
CL1023	E-13	F
CL1024	C-17	F
CL1031	C-15	F
CL1041	C-17	F
CL1042	C-16	F

CL1043	E-15	F
CL1044	E-13	F
CL1045	C-17	F
CL1046	C-17	F
CL1047	C-17	F
CL1051	E-10	F
CL1061	D-13	F
CL1062	E-11	F
CL1071	C-16	F
CL1072	C-16	F
CL1073	D-17	F
CL2001	B-10	F
CL2002	B-10	F
CL2003	C-10	F
CL2004	C-10	F
CL2005	C-10	F
CL2006	C-10	F
CL2007	C-10	F
CL2008	B-10	F
CL5001	C-12	F
CL5002	D-11	F
CL5003	D-11	F
CL5004	D-13	F
CL5005	C-12	F
CL5006	C-11	F
CL5007	C-12	F
CL5008	E-12	F
CL5009	D-12	F
CL5011	D-12	F
CL5017	D-12	F
CL5201	F-11	F
CL5204	F-11	F
CL5207	F-11	F
CL6001	D-15	F
CL6002	D-15	F
CL6003	C-15	F
CL6004	C-15	F
CL6005	E-15	F
CL6007	D-15	F
CL6008	D-15	F
CL6009	D-15	F
CL6011	D-15	F
CL6012	C-14	F
CL6013	C-15	F
CL6014	D-15	F
CL6015	C-14	F
CL6022	D-13	F
CL6023	D-13	F
CL6099	E-13	F
CL7001	B-12	F
CL8101	D-17	F
CL8102	D-17	F
CL9001	E-19	F
CL9002	F-19	F
CL9003	F-19	F
CL9004	F-19	F
CL9005	E-19	F
CL9006	E-19	F
CL9007	F-19	F
CL9008	E-19	F
CL9009	E-19	F
CL9010	E-19	F
CL9011	E-18	F
CL9012	E-19	F
CL9013	E-19	F
CL9014	F-19	F
CL9015	E-19	F
CL9016	E-18	F

CL9019	F-19	F
CL9020	F-19	F
CL9021	F-19	F
CL9022	E-11	F
CL9023	E-11	F
CL9024	E-11	F
CL9026	E-16	F
CL9027	E-16	F
CL9028	E-16	F
CL9029	E-16	F
CL9030	E-13	F
CL9031	E-13	F
CL9032	E-11	F
CL9033	E-11	F
CL9101	D-11	F
CL9102	C-13	F
RL5001	I-8	C
RL5002	I-9	C
RL5003	I-8	C
RL5004	I-8	C
RL5005	I-8	C
RL6021	C-16	F
RL6022	C-15	F
RL6023	C-15	F
RL6024	C-15	F
RL6025	C-15	F
RL6026	C-16	F
RL6027	E-15	F
RL7001	I-8	C
RL7002	I-8	C
RL7003	I-8	C
RL7004	I-8	C
RL7005	I-8	C
RL7006	H-8	C
RL7009	I-10	C
RL7010	I-10	C
RL7101	K-10	C
RL9002	E-13	F
RL9003	D-13	F
RL9004	D-13	F
RL9005	D-13	F
RL9101	H-8	C
RL9102	D-11	F
RL9103	D-11	F
RL9104	I-8	C
RL9105	H-7	C
RL9106	H-8	C
RL9107	H-7	C
RL9108	H-8	C
RL9109	H-8	C
RL9110	I-10	C
RL9111	H-7	C
RL9112	C-12	F
TL2001	C-10	F

Connector		
FP9001	E-14	F
FP9002	E-20	F
FP9003	C-11	F
FP9004	D-12	F
FP9005	B-13	F
FP9006	F-11	F
FP9008	E-16	F
FP9010	F-15	F
JK2001	I-12	C
JK2002	J-12	C
P9001	F-10	F
P9002	L-3	C

P9005	E-11	F
P9007	I-3	C
PS9001	L-4	C

Fuse		
F1001	E-18	F
F2001	I-11	C

Diode		
D1010	H-6	C
D1060	J-6	C
D1070	C-15	F
D2001	J-11	C
D8101	D-16	F
D8103	D-16	F
D9001	C-18	F
D9002	C-18	F
D9003	C-18	F
D9004	C-18	F
D9005	C-18	F
D9006	E-11	F
D9007	E-11	F

Crystal Oscillator		
X6001	C-14	F
X6081	C-14	F
X9101	I-9	C

Coil		
L1010	B-16	F
L1020	I-7	C
L1030	I-7	C
L1040	I-7	C
L1042	C-17	F
L1050	J-6	C
L1060	J-6	C
L1070	C-15	F
L2001	I-11	C
L7001	J-10	C
L9001	K-8	C
LB1001	E-18	F
LB2001	I-11	C
LB2002	I-11	C
LB2003	I-11	C
LB2004	I-11	C
LB2005	J-11	C
LB2006	J-11	C
LB2007	J-11	C
LB2008	I-11	C
LB6004	E-15	F
LB9001	L-11	C
LB9002	L-11	C
LB9003	L-11	C
LB9076	E-15	F
LB9077	E-15	F

Filter		
FL2001	I-8	C
FL2002	I-8	C

Capacitor		
C1001	E-18	F
C1002	I-6	C
C1003	H-6	C
C1004	H-6	C
C1005	H-6	C
C1006	H-5	C
C1007	H-6	C

C1008	H-6	C
C1009	H-6	C
C1010	B-16	F
C1014	H-5	C
C1015	B-16	F
C1020	I-7	C
C1023	B-15	F
C1024	K-8	C
C1030	I-7	C
C1033	I-7	C
C1034	I-7	C
C1040	J-7	C
C1041	J-7	C
C1042	K-7	C
C1043	K-8	C
C1045	C-17	F
C1051	J-6	C
C1060	J-5	C
C1061	H-10	C
C1062	H-11	C
C1063	I-6	C
C1064	J-5	C
C1070	C-16	F
C1071	C-16	F
C1073	C-17	F
C1101	H-6	C
C1103	H-6	C
C1201	I-5	C
C1203	C-16	F
C1301	I-5	C
C1303	C-16	F
C1401	I-5	C
C1403	I-6	C
C1501	I-5	C
C1511	J-7	C
C1512	J-7	C
C1522	J-6	C
C1601	I-5	C
C1701	I-5	C
C1705	J-6	C
C1706	C-17	F
C2001	I-11	C
C2002	I-11	C
C5002	D-12	F
C5003	D-12	F
C5005	I-11	C
C5006	J-10	C
C5007	J-10	C
C5009	I-11	C
C5010	I-10	C
C5012	I-10	C
C5013	I-11	C
C5014	J-11	C
C5015	J-11	C
C5018	D-12	F
C5019	D-12	F
C5020	J-10	C
C5021	J-10	C
C5201	L-11	C
C5202	L-11	C
C5203	K-11	C
C5204	K-11	C
C5205	K-11	C
C5206	L-11	C
C5207	K-11	C
C5208	L-11	C
C5209	K-11	C
C6001	J-8	C

C6002	J-8	C
C6003	J-8	C
C6004	J-8	C
C6005	J-8	C
C6006	J-8	C
C6007	K-8	C
C6010	J-8	C
C6021	J-7	C
C6022	J-7	C
C6023	K-8	C
C6024	J-8	C
C6025	J-8	C
C6026	K-8	C
C6027	J-7	C
C6028	J-7	C
C6029	J-8	C
C6030	J-7	C
C6031	J-7	C
C6032	J-8	C
C6033	J-8	C
C6034	J-8	C
C6035	E-15	F
C6036	E-15	F
C6037	I-7	C
C6038	J-8	C
C6039	J-8	C
C6040	J-8	C
C6041	J-8	C
C6043	J-8	C
C6044	J-8	C
C6045	J-7	C
C6046	I-7	C
C6047	I-7	C
C6051	D-13	F
C6052	D-15	F
C6053	J-7	C
C6054	C-14	F
C6055	C-14	F
C6056	K-7	C
C6057	J-7	C
C6061	C-15	F
C6062	D-15	F
C6081	C-14	F
C6082	C-14	F
C6083	C-14	F
C6084	I-8	C
C6085	I-8	C
C6086	C-14	F
C6091	I-8	C
C6092	I-8	C
C6093	I-8	C
C6094	I-8	C
C6095	I-8	C
C6096	I-8	C
C6097	I-7	C
C6098	I-8	C
C7001	I-10	C
C7003	I-9	C
C7004	J-10	C
C7005	J-10	C
C7006	J-10	C
C7007	J-10	C
C7008	J-10	C
C7009	J-10	C
C7010	J-10	C
C7011	J-10	C
C7012	I-10	C
C7013	I-9	C

C7014	I-10	C
C7015	I-10	C
C7016	I-10	C
C7017	I-10	C
C7018	I-9	C
C7019	H-10	C
C7021	I-10	C
C7022	I-10	C
C7030	J-10	C
C7101	K-10	C
C7102	K-10	C
C7104	K-9	C
C7105	K-10	C
C7106	K-9	C
C8101	D-16	F
C8102	D-16	F
C9001	C-18	F
C9002	E-15	F
C9003	C-18	F
C9004	C-18	F
C9005	C-18	F
C9006	C-18	F
C9007	B-11	F
C9008	C-18	F
C9009	E-15	F
C9010	L-11	C
C9011	L-11	C
C9012	F-19	F
C9013	F-19	F
C9014	L-12	C
C9015	D-11	F
C9016	D-11	F
C9017	C-13	F
C9018	E-11	F
C9019	D-12	F
C9020	C-18	F
C9025	B-11	F
C9026	D-13	F
C9027	C-18	F
C9061	E-13	F
C9101	I-9	C
C9102	I-9	C
C9103	I-9	C
C9104	I-9	C
C9105	K-2	C
C9106	H-9	C
C9107	I-9	C
C9108	H-9	C
C9109	H-9	C
C9110	I-10	C
C9111	I-10	C
C9112	I-10	C
C9113	H-9	C
CX6001	D-13	F
CX6002	D-13	F
CX6003	C-13	F

Resistor		
R1003	E-19	F
R1004	H-5	C
R1005	H-6	C
R1006	C-16	F
R1008	K-7	C
R1009	K-8	C
R1010	B-16	F
R1011	H-5	C
R1012	H-6	C
R1013	H-5	C

R1014	H-5	C
R1020	B-15	F
R1021	I-5	C
R1022	I-5	C
R1023	C-17	F
R1024	B-15	F
R1025	K-8	C
R1029	C-17	F
R1030	I-7	C
R1031	I-5	C
R1032	I-5	C
R1040	J-7	C
R1041	I-5	C
R1042	I-5	C
R1043	I-5	C
R1045	J-7	C
R1046	J-6	C
R1047	J-7	C
R1048	K-8	C
R1049	K-8	C
R1050	J-7	C
R1051	I-5	C
R1052	I-5	C
R1053	J-7	C
R1060	H-11	C
R1061	I-5	C
R1062	I-5	C
R1070	C-16	F
R1071	I-5	C
R1074	I-5	C
R1075	C-17	F
R1101	C-17	F
R1103	H-6	C
R1201	C-17	F
R1202	C-17	F
R1203	I-5	C
R1303	I-5	C
R1403	I-5	C
R1503	I-5	C
R1603	I-5	C
R1701	I-5	C
R2001	I-11	C
R2002	I-11	C
R2003	I-11	C
R2005	H-11	C
R2011	J-11	C
R2012	J-11	C
R2015	I-11	C
R2016	I-11	C
R2017	I-11	C
R2021	J-11	C
R2022	I-11	C
R5001	D-13	F
R5006	J-11	C
R5010	J-10	C
R5011	J-10	C
R5012	J-11	C
R5013	J-11	C
R5025	L-10	C
R5026	L-11	C
R5201	L-11	C
R5202	K-11	C
R5203	L-11	C
R5204	K-11	C
R5205	K-11	C
R5206	K-11	C
R5207	L-11	C
R5208	K-10	C

R5209	K-11	C
R5210	K-11	C
R5211	L-11	C
R5212	L-10	C
R5213	L-11	C
R5214	L-11	C
R5215	K-11	C
R5216	K-11	C
R5217	K-11	C
R5218	L-11	C
R5219	L-11	C
R5220	L-11	C
R5221	K-11	C
R5222	K-11	C
R5223	L-10	C
R5224	L-11	C
R6001	C-13	F
R6002	J-8	C
R6003	D-13	F
R6004	J-8	C
R6005	C-13	F
R6006	J-8	C
R6007	C-14	F
R6009	D-16	F
R6010	J-8	C
R6011	J-8	C
R6012	J-8	C
R6013	D-13	F
R6014	D-13	F
R6021	C-13	F
R6022	C-13	F
R6023	J-7	C
R6024	I-7	C
R6025	I-7	C
R6026	I-7	C
R6027	J-8	C
R6028	J-8	C
R6030	J-8	C
R6031	J-8	C
R6032	J-8	C
R6033	J-8	C
R6034	J-8	C
R6036	J-8	C
R6037	J-8	C
R6038	J-8	C
R6040	J-8	C
R6041	J-9	C
R6042	J-8	C
R6043	E-15	F
R6044	I-7	C
R6045	J-8	C
R6047	C-13	F
R6051	D-15	F
R6052	E-13	F
R6053	C-15	F
R6054	E-15	F
R6055	D-15	F
R6056	E-15	F
R6057	J-7	C
R6058	C-14	F
R6059	C-14	F
R6060	E-13	F
R6061	E-13	F
R6062	E-13	F
R6063	J-7	C
R6081	C-14	F
R6082	C-14	F
R6083	C-14	F

R6084	I-8	C
R6085	I-8	C
R6086	I-8	C
R6087	C-14	F
R6088	C-14	F
R6089	C-14	F
R7002	J-9	C
R7003	J-10	C
R7004	J-10	C
R7005	J-10	C
R7006	I-10	C
R7007	J-9	C
R7009	H-10	C
R7010	I-9	C
R7011	I-9	C
R7012	I-10	C
R7013	H-10	C
R7014	H-10	C
R7015	H-10	C
R7016	H-9	C
R7017	H-9	C
R7019	I-11	C
R7020	H-10	C
R7021	J-10	C
R7022	J-9	C
R7023	I-9	C
R7024	I-10	C
R7025	I-10	C
R7026	J-10	C
R7027	J-9	C
R7028	J-9	C
R7041	E-14	F
R7042	E-14	F
R7043	E-14	F
R7044	E-14	F
R7045	E-14	F
R7046	E-14	F
R7047	E-14	F
R7048	E-14	F
R7049	E-14	F
R7050	E-15	F
R7051	E-14	F
R7052	E-14	F
R7053	E-14	F
R7054	E-19	F
R7055	E-19	F
R7056	E-19	F
R7057	E-19	F
R7058	E-19	F
R7059	E-19	F
R7060	E-19	F
R7061	E-19	F
R7062	E-19	F
R7063	E-19	F
R7064	E-19	F
R7065	E-19	F
R7066	E-19	F
R7067	E-19	F
R7068	E-19	F
R7069	E-19	F
R7070	E-19	F
R7071	E-19	F
R7072	E-19	F
R7073	E-19	F
R7074	E-19	F
R7075	E-19	F
R7076	E-19	F
R7077	E-19	F
R7078	E-19	F
R7079	E-19	F
R7080	E-19	F
R7081	E-19	F
R7082	E-19	F
R7083	E-19	F
R7084	E-19	F
R7085	E-19	F
R7086	E-19	F
R7087	E-19	F
R7088	E-19	F
R7089	E-19	F
R7090	E-19	F
R7091	E-19	F
R7092	E-19	F
R7093	E-19	F
R7094	E-19	F
R7095	E-19	F
R7096	E-19	F
R7097	E-19	F
R7098	E-19	F
R7099	E-19	F
R7100	E-19	F
R7101	E-19	F
R7102	E-19	F
R7103	E-19	F
R7104	E-19	F
R7105	E-19	F
R7106	E-19	F
R7107	E-19	F
R7108	E-19	F
R8101	D-17	F
R8102	D-16	F
R8103	D-17	F
R8105	D-17	F
R8106	D-16	F
R8107	E-16	F
R8108	E-16	F
R8109	D-16	F
R8110	D-16	F
R8111	D-17	F
R8112	D-17	F
R8113	D-17	F
R9001	C-12	F
R9002	C-12	F
R9003	C-12	F
R9004	C-12	F
R9005	C-12	F
R9006	C-12	F
R9007	C-13	F
R9008	C-13	F
R9009	C-13	F
R9010	C-12	F
R9011	C-13	F
R9012	C-13	F
R9013	C-12	F
R9014	C-12	F
R9015	C-12	F
R9016	C-12	F
R9017	C-13	F

R9018	C-13	F
R9019	C-12	F
R9020	C-12	F
R9021	D-13	F
R9022	D-13	F
R9023	D-13	F
R9024	D-13	F
R9025	D-13	F
R9026	D-13	F
R9027	D-13	F
R9028	D-13	F
R9029	D-13	F
R9030	D-13	F
R9031	B-18	F
R9032	C-18	F
R9033	C-18	F
R9041	E-14	F
R9042	E-14	F
R9043	E-14	F
R9044	E-14	F
R9045	E-14	F
R9046	E-14	F
R9047	E-14	F
R9048	E-14	F
R9049	E-14	F
R9050	E-15	F
R9051	E-14	F
R9052	E-14	F
R9053	E-14	F
R9054	E-14	F
R9055	E-14	F
R9056	E-14	F
R9057	E-14	F
R9058	E-14	F
R9059	E-14	F
R9060	E-14	F
R9061	E-14	F
R9062	E-14	F
R9063	E-14	F
R9064	E-14	F
R9065	E-14	F
R9066	E-14	F
R9067	E-14	F
R9068	E-14	F
R9069	E-14	F
R9070	E-14	F
R9071	F-19	F
R9072	F-19	F
R9073	F-19	F
R9074	F-19	F
R9075	E-19	F
R9078	H-11	C
R9079	B-11	F
R9080	F-19	F
R9081	M-4	C
R9082	M-4	C
R9083	C-18	F
R9084	C-18	F
R9085	C-18	F
R9086	C-18	F
R9087	C-18	F
R9088	C-18	F
R9089	C-18	F
R9090	C-18	F
R9091	C-18	F
R9092	C-18	F
R9093	C-18	F
R9094	C-18	F
R9095	C-18	F
R9096	C-18	F
R9097	C-18	F
R9098	C-18	F
R9099	C-18	F
R9100	C-18	F
R9101	C-18	F
R9102	C-18	F
R9103	C-18	F
R9104	C-18	F
R9105	C-18	F
R9106	C-18	F
R9107	C-18	F
R9108	C-18	F
R9109	C-18	F
R9110	C-18	F
R9111	C-18	F
R9112	C-18	F
R9113	C-18	F
R9114	C-18	F
R9115	C-18	F
R9116	C-18	F
R9117	C-18	F
R9118	C-18	F
R9119	C-18	F
R9120	C-18	F
R9121	C-18	F
R9122	C-18	F
R9123	C-18	F
R9124	C-18	F
R9501	C-18	F
R9502	C-18	F
R9503	C-18	F
R9507	B-18	F
R9508	C-18	F
R9510	C-18	F
R9511	F-17	F
RX2001	J-11	C
RX2002	J-11	C
RX6001	D-13	F
RX6002	C-13	F
RX6003	D-13	F
RX6051	E-13	F
RX6052	D-13	F
RX6053	D-13	F
RX6054	D-13	F
RX9001	C-18	F
RX9002	C-17	F

RX9003	C-10	F
RX9004	D-11	F
RX9005	D-11	F
RX9006	C-10	F
RX9007	E-11	F
RX9101	I-10	C

Varistor		
VA2001	J-11	C
VA2002	I-11	C
VA2003	J-11	C
VA2004	I-11	C
VA9001	K-2	C
VA9002	C-13	F
VA9003	C-13	F
VA9004	H-9	C
VA9005	H-9	C
VA9006	H-8	C
VA9007	H-8	C
VA9008	H-8	C
VA9009	H-8	C
VA9010	H-8	C
VA9011	H-8	C
VA9012	H-8	C
VA9013	C-14	F
VA9014	C-14	F
VA9015	C-14	F
VA9016	C-14	F
VA9017	C-13	F
VA9018	C-13	F
VA9019	H-9	C
VA9020	E-18	F
VA9021	E-11	F
VA9022	D-17	F
VA9023	D-17	F
VA9024	D-17	F
VA9031	E-11	F
VA9032	D-11	F
VA9033	B-11	F
VA9034	B-11	F
VA9061	E-14	F

Backup Battery		
ZB9101	K-2	C

Ground Terminal		
G1001	E-18	F
G1002	E-19	F
G1003	B-15	F
G1004	C-17	F
G5001	D-13	F
G5006	J-11	C
G5222	K-11	C
G5223	L-10	C
G5224	L-11	C
G6001	C-12	F
G6002	C-12	F
G6003	C-13	F
G6010	I-7	C
G6011	J-8	C
G6012	J-8	C
G6013	J-7	C
G6014	I-7	C
G6015	I-7	C
G6016	I-7	C
G6017	J-8	C
G6018	J-7	C
G6019	C-14	F

Address Information
C.....Component Side
F.....Foil Side

Main P.C.B. (2/2)		
G6020	C-14	F
G7001	H-10	C
G7002	I-11	C
G9001	C-18	F
G9002	C-18	F
G9101	I-11	C
G9102	I-11	C
Switch		
S9501	D-19	F
S9502	C-19	F
S9503	C-20	F
S9504	C-19	F
S9505	B-19	F
S9506	C-19	F
S9507	D-19	F
S9509	E-20	F
S9510	G-18	F
S9511	G-17	F
Earth Terminal		
ET2001	D-11	F
ET2002	B-15	F

Address Information
C.....Component Side
F.....Foil Side

S6. Replacement Parts List

Note:
1. * Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
   Components identified with the mark ⚠ have the special characteristics for safety.
   When replacing any of these components, use only the same type.
3. Unless otherwise specified,
   All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICRO-FARADS (uf), P=uuF.
4. The marking (RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.
5. Supply of CD-ROM, in accordance with license protection, is allowable as replacement parts only for customers who accidentally damaged or lost their own.

E.S.D. standards for Electrostatically Sensitive Devices, refer to PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES section.

Definition of Parts supplier:

1. **Parts marked with [ENERGY] in the remarks column are supplied from Panasonic Corporation Energy Company.**
2. **Parts marked with [PAVCSG] in the remarks column are supplied from PAVCSG. Others are supplied from AVC-CSC-SPC.**

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
##	VEP56145B	MAIN P.C.B.		(RTL) E.S.D. EG,EP,EF,EB
##	VEP56145A	MAIN P.C.B.		(RTL) E.S.D. P,PC,PU,EE,
				GC,GT,GK,GN,GD
⚠ B9101	ML-614S/ZTK	BATTERY	1	[ENERGY]
C1001	F1H1A4750004	C.CAPACITOR CH 10V 4.7U	1	
C1002	F1G1A2240008	C.CAPACITOR CH 10V 0.22U	1	
C1003	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C1004	F1G1A2240008	C.CAPACITOR CH 10V 0.22U	1	
C1005	F1G1A2240008	C.CAPACITOR CH 10V 0.22U	1	
C1006	F1G1A473A032	C.CAPACITOR CH 10V 0.047U	1	
C1007	F1G1A473A032	C.CAPACITOR CH 10V 0.047U	1	
C1008	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C1009	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C1010	F1J0J2260004	C.CAPACITOR CH 6.3V 22U	1	
C1014	F1G1H221A541	C.CAPACITOR CH 50V 220P	1	
C1015	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C1020	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C1023	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C1024	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C1030	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C1040	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C1041	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C1042	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C1043	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C1051	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C1060	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C1061	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C1062	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C1063	F1H1A4750004	C.CAPACITOR CH 10V 4.7U	1	
C1064	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C1070	F1J1H105A449	C.CAPACITOR CH 50V 1U	1	
C1073	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C1101	F1G1H3310003	C.CAPACITOR CH 50V 330P	1	
C1103	F1H1A4750004	C.CAPACITOR CH 10V 4.7U	1	
C1201	F1G1H681A571	C.CAPACITOR CH 50V 680P	1	
C1203	F1G1A2240008	C.CAPACITOR CH 10V 0.22U	1	
C1301	F1G1H3320004	C.CAPACITOR CH 50V 3300P	1	
C1303	F1G1A2240008	C.CAPACITOR CH 10V 0.22U	1	
C1401	F1G1E472A086	C.CAPACITOR CH 25V 4700P	1	
C1403	F1H1A4750004	C.CAPACITOR CH 10V 4.7U	1	
C1501	F1G1E102A086	C.CAPACITOR CH 25V 1000P	1	
C1511	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C1512	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C1601	F1G1H681A571	C.CAPACITOR CH 50V 680P	1	
C1701	F1G1E6820007	C.CAPACITOR CH 25V 6800P	1	
C2001	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C2002	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C5002	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C5003	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C5005	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C5006	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C5007	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C5009	F1H0J4750004	C.CAPACITOR CH 6.3V 4.7U	1	
C5010	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C5012	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C5013	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C5018	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C5019	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C5020	F1G1H470A565	C.CAPACITOR CH 50V 47P	1	
C5021	F1G1H470A565	C.CAPACITOR CH 50V 47P	1	
C5201	F1G1E472A086	C.CAPACITOR CH 25V 4700P	1	
C5202	F1G1E472A086	C.CAPACITOR CH 25V 4700P	1	
C5203	F1H0J4750004	C.CAPACITOR CH 6.3V 4.7U	1	
C5204	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C5209	F1J0J2260004	C.CAPACITOR CH 6.3V 22U	1	
C6001	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C6002	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C6003	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6004	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6005	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6006	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C6007	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C6010	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6021	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6022	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C6024	F1G1H3310003	C.CAPACITOR CH 50V 330P	1	
C6025	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C6026	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C6027	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C6028	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C6029	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C6030	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6031	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6034	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6035	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C6036	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6037	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6038	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C6039	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C6040	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6041	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6043	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6051	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C6052	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6053	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C6061	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6062	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6081	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6084	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6086	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6091	F1G1H1R0A577	C.CAPACITOR CH 50V 1P	1	
C6092	F1G1H1R0A577	C.CAPACITOR CH 50V 1P	1	
C6093	F1G1H1R0A577	C.CAPACITOR CH 50V 1P	1	
C6094	F1G1H1R0A577	C.CAPACITOR CH 50V 1P	1	
C6095	F1G1H1R0A577	C.CAPACITOR CH 50V 1P	1	
C6096	F1G1H1R0A577	C.CAPACITOR CH 50V 1P	1	
C6097	F1G1H1R0A577	C.CAPACITOR CH 50V 1P	1	
C6098	F1G1H1R0A577	C.CAPACITOR CH 50V 1P	1	
C7001	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C7003	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C7006	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C7007	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C7008	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C7009	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C7010	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C7011	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C7014	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C7019	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C7101	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C7102	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C7104	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C7105	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C7106	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C8101	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C8102	F1G1H3320004	C.CAPACITOR CH 50V 3300P	1	
C9001	F1J0J2260004	C.CAPACITOR CH 6.3V 22U	1	
C9002	F1G1E472A086	C.CAPACITOR CH 25V 4700P	1	
C9003	F1G1H100A565	C.CAPACITOR CH 50V 10P	1	
C9004	F1G1H100A565	C.CAPACITOR CH 50V 10P	1	
C9005	F1G1H100A565	C.CAPACITOR CH 50V 10P	1	
C9006	F1G1H100A565	C.CAPACITOR CH 50V 10P	1	
C9008	F1G1H100A565	C.CAPACITOR CH 50V 10P	1	
C9009	F1G1E472A086	C.CAPACITOR CH 25V 4700P	1	
C9012	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C9013	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C9015	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C9016	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C9017	F1G1C1030008	C.CAPACITOR CH 16V 0.01U	1	
C9019	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C9020	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C9025	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C9026	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C9061	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C9101	F1G1E102A086	C.CAPACITOR CH 25V 1000P	1	
C9102	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C9103	F1G1H120A557	C.CAPACITOR CH 50V 12P	1	
C9104	F1G1H120A557	C.CAPACITOR CH 50V 12P	1	
C9105	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C9106	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C9110	ECJ1VB1A105K	C.CAPACITOR CH 10V 1U	1	
C9111	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C9112	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
CX6001	F5A84103A020	CAPACITOR NETWORKS	1	
CX6002	F5A84103A020	CAPACITOR NETWORKS	1	
CX6003	F5A84103A020	CAPACITOR NETWORKS	1	
D1010	B0JCMD000066	DIODE	1	E.S.D.
D1060	B0JCMD000066	DIODE	1	E.S.D.
D1070	B0JCMD000066	DIODE	1	E.S.D.
D2001	B0JCCD000003	DIODE	1	E.S.D.
D8101	DZ2J082M0L	DIODE	1	E.S.D.
D8103	B2ABAP000006	DIODE	1	E.S.D.
ET2001	K4ZZ01000300	EARTH TERMINAL	1	
ET2002	K4AD01D00008	EARTH TERMINAL	1	
⚠ F1001	K5H252YA0080	FUSE 1.5A	1	
⚠ F2001	K5H1522A0018	FUSE 1.5A	1	
FL2001	J0MAB0000228	FILTER	1	
FL2002	J0MAB0000228	FILTER	1	
FP9001	K1MY51BA0235	CONNECTOR 51P	1	
FP9002	K1MY18BA0370	CONNECTOR 18P	1	
FP9003	K1MY45BA0235	CONNECTOR 45P	1	
FP9004	K1MY22BA0370	CONNECTOR 22P	1	
FP9005	K1MN40BA0153	CONNECTOR 40P	1	
FP9006	K1MY10BA0370	CONNECTOR 10P	1	
FP9008	K1MY12BA0370	CONNECTOR 12P	1	
FP9010	K1MY04BA0370	CONNECTOR 4P	1	
IC1001	VUEALLPT049	IC	1	E.S.D.
IC1021	C0DBGYY01175	IC	1	E.S.D.
IC1022	C0DBGYY00791	IC	1	E.S.D.
IC1041	C0DBGYY00779	IC	1	E.S.D.
IC1042	C0DBGYY00779	IC	1	E.S.D.
IC1043	C0DBGYY00774	IC	1	E.S.D.
IC1051	C0DBGYY01180	IC	1	E.S.D.
IC1061	C0DBGYY02186	IC	1	E.S.D.
IC5001	C0JBAR000567	IC	1	E.S.D.
IC6001	VSG1009	IC	1	E.S.D.
IC6004	C0JBAA000479	IC	1	E.S.D.
IC6005	29LV8BFZ150	IC	1	E.S.D.
IC7101	EWTS9PSX1A	IC	1	E.S.D.
IC9101	C1AB00003449	IC	1	E.S.D.
JK2001	K1FB108E0008	JACK, AV OUT/DIGITAL	1	
JK2002	K1FA119E0020	JACK, HDMI	1	
L1010	G1C4R3M00003	CHIP INDUCTOR 4.3UH	1	
L1020	G1C100MA0461	CHIP INDUCTOR 10UH	1	
L1030	G1C100MA0450	CHIP INDUCTOR 10UH	1	
L1040	G1C100MA0450	CHIP INDUCTOR 10UH	1	
L1050	G1C220MA0477	CHIP INDUCTOR 22UH	1	
L1060	G1C100MA0461	CHIP INDUCTOR 10UH	1	
L1070	G1C330MA0477	CHIP INDUCTOR 33UH	1	
L2001	J0ZZB0000142	OTHER FILTERS	1	
L7001	G1C100MA0408	CHIP INDUCTOR 10UH	1	
L9001	G1C2R2MA0211	CHIP INDUCTOR 2.2UH	1	
LB1001	J0JGC0000038	FILTER	1	
LB2001	J0JCC0000415	FILTER	1	
LB2002	J0JCC0000415	FILTER	1	
LB2003	J0JCC0000415	FILTER	1	
LB2004	J0JCC0000415	FILTER	1	
LB2005	J0JYC0000061	FILTER	1	
LB2006	J0JYC0000061	FILTER	1	
LB2007	J0JYC0000061	FILTER	1	
LB2008	J0JYC0000061	FILTER	1	
LB6004	J0JCC0000317	FILTER	1	
LB9001	J0JCC0000415	FILTER	1	
LB9002	J0JCC0000415	FILTER	1	
LB9003	J0JCC0000415	FILTER	1	
LB9076	J0JCC0000397	FILTER	1	
LB9077	J0JCC0000397	FILTER	1	
P9001	K1KA02BA0022	CONNECTOR 2P	1	
P9002	K1ZZ00001523	BATTERY CONNECTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
P9005	K1KA02BA0022	CONNECTOR 2P	1	
P9007	K1NA09E00098	SD CARD CONNECTOR	1	
PS9001	K1KB20AA0094	CONNECTOR 20P	1	
Q1071	B1CFHC000005	TRANSISTOR	1	E.S.D.
Q2001	B1CFHC000005	TRANSISTOR	1	E.S.D.
Q5201	B1ABDF000017	TRANSISTOR	1	E.S.D.
Q5206	B1ABDF000017	TRANSISTOR	1	E.S.D.
Q8101	B1CFHC000005	TRANSISTOR	1	E.S.D.
Q8102	B1ABCF000103	TRANSISTOR	1	E.S.D.
Q9101	DSC900100L	TRANSISTOR	1	E.S.D.
QR5201	B1GDCFNN0031	TRANSISTOR-RESISTOR	1	E.S.D.
QR5202	B1GBCFNL0020	TRANSISTOR-RESISTOR	1	E.S.D.
QR6001	B1GBCFNL0020	TRANSISTOR-RESISTOR	1	E.S.D.
QR6002	B1GBCFNL0020	TRANSISTOR-RESISTOR	1	E.S.D.
QR8101	B1GKCFGN0003	TRANSISTOR-RESISTOR	1	E.S.D.
QR8102	B1GBCFJJ0064	TRANSISTOR-RESISTOR	1	E.S.D.
QR8103	B1GKCFJN0003	TRANSISTOR-RESISTOR	1	E.S.D.
QR9002	B1GFCFJJ0016	TRANSISTOR-RESISTOR	1	E.S.D.
R1004	ERJ2GEJ103	M.RESISTOR CH 1/10W 10K	1	
R1005	ERJ2RHD473	M.RESISTOR CH 1/16W 47K	1	
R1011	ERJ2RHD333X	M.RESISTOR CH 1/16W 33K	1	
R1012	ERJ2RHD683	M.RESISTOR CH 1/16W 68K	1	
R1014	ERJ2GEJ332	M.RESISTOR CH 1/16W 3.3K	1	
R1021	ERJ2RHD303	M.RESISTOR CH 1/16W 30K	1	
R1022	ERJ2RHD153X	M.RESISTOR CH 1/16W 15K	1	
R1031	ERJ2RHD103	M.RESISTOR CH 1/16W 10K	1	
R1032	ERJ2RHD513	M.RESISTOR CH 1/16W 51K	1	
R1041	ERJ2RHD433	M.RESISTOR CH 1/16W 43K	1	
R1042	ERJ2RHD393	M.RESISTOR CH 1/16W 39K	1	
R1051	ERJ2RKD184	M.RESISTOR CH 1/16W 180K	1	
R1052	ERJ2RHD753	M.RESISTOR CH 1/16W 75K	1	
R1061	ERJ2RHD393	M.RESISTOR CH 1/16W 39K	1	
R1062	ERJ2RHD912	M.RESISTOR CH 1/16W 9.1K	1	
R1071	ERJ2GEJ104	M.RESISTOR CH 1/10W 100K	1	
R1072	ERJ2RKD100	M.RESISTOR CH 1/16W 10	1	
R1074	ERJ2GEJ153	M.RESISTOR CH 1/16W 15K	1	
R1075	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R1103	ERJ2GEJ163X	M.RESISTOR CH 1/16W 16K	1	
R1203	ERJ2GEJ623	M.RESISTOR CH 1/16W 62K	1	
R1303	ERJ2GEJ113	M.RESISTOR CH 1/16W 11K	1	
R1403	ERJ2GEJ113	M.RESISTOR CH 1/16W 11K	1	
R1503	ERJ2GEJ753	M.RESISTOR CH 1/16W 75K	1	
R1603	ERJ2GEJ513X	M.RESISTOR CH 1/16W 51K	1	
R1701	ERJ2RHD272	M.RESISTOR CH 1/16W 2.7K	1	
R2001	ERJ2GEJ750	M.RESISTOR CH 1/10W 75	1	
R2002	ERJ2GEJ561	M.RESISTOR CH 1/16W 560	1	
R2003	ERJ2GEJ102Y	M.RESISTOR CH 1/10W 1K	1	
R2005	ERJ2GEJ102Y	M.RESISTOR CH 1/10W 1K	1	
R2011	ERJ2GEJ202	M.RESISTOR CH 1/10W 2K	1	
R2012	ERJ2GED273X	M.RESISTOR CH 1/10W 27K	1	
R2015	ERJ2GEJ202	M.RESISTOR CH 1/10W 2K	1	
R2016	ERJ2RHD682X	M.RESISTOR CH 1/10W 6.8K	1	
R2022	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R5011	ERJ2GEJ222	M.RESISTOR CH 1/10W 2.2K	1	
R5013	ERJ2GEJ222	M.RESISTOR CH 1/10W 2.2K	1	
R5201	ERJ3RBD562	M.RESISTOR CH 1/10W 5.6K	1	
R5202	ERJ3RBD331	M.RESISTOR CH 1/10W 330	1	
R5203	ERJ3RBD562	M.RESISTOR CH 1/10W 5.6K	1	
R5204	ERJ2GEJ473Y	M.RESISTOR CH 1/10W 47K	1	
R5205	ERJ2GEJ683	M.RESISTOR CH 1/16W 68K	1	
R5206	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R5221	ERJ2GEJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6001	ERJ2RKF1183	M.RESISTOR CH 1/16W 118K	1	
R6002	ERJ2RHD222	M.RESISTOR CH 1/16W 2.2K	1	
R6003	ERJ2RHD103	M.RESISTOR CH 1/16W 10K	1	
R6004	ERJ2RHD122	M.RESISTOR CH 1/16W 1.2K	1	
R6005	ERJ2RHD561	M.RESISTOR CH 1/16W 560	1	
R6009	ERJ2GEJ102Y	M.RESISTOR CH 1/10W 1K	1	
R6012	ERJ2RHD511	M.RESISTOR CH 1/16W 510	1	
R6013	ERJ2GEJ101	M.RESISTOR CH 1/10W 100	1	
R6014	ERJ2GEJ101	M.RESISTOR CH 1/10W 100	1	
R6021	ERJ2GEJ103	M.RESISTOR CH 1/10W 10K	1	
R6022	ERJ2RKF6201	M.RESISTOR CH 1/16W 6.2K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R6028	ERJ2RHD511	M.RESISTOR CH 1/16W 510	1	
R6030	ERJ2RHD511	M.RESISTOR CH 1/16W 510	1	
R6032	ERJ2RHD511	M.RESISTOR CH 1/16W 510	1	
R6034	ERJ2RHD511	M.RESISTOR CH 1/16W 510	1	
R6036	ERJ2RHD511	M.RESISTOR CH 1/16W 510	1	
R6038	ERJ2RHD511	M.RESISTOR CH 1/16W 510	1	
R6040	ERJ2RHD241	M.RESISTOR CH 1/16W 240	1	
R6042	ERJ2RKF2800	M.RESISTOR CH 1/16W 28	1	
R6043	ERJ2GEJ103	M.RESISTOR CH 1/10W 10K	1	
R6052	ERJ2GEJ101	M.RESISTOR CH 1/10W 100	1	
R6053	ERJ2GEJ473Y	M.RESISTOR CH 1/10W 47K	1	
R6054	ERJ2GEJ101	M.RESISTOR CH 1/10W 100	1	
R6056	ERJ2RKD330	M.RESISTOR CH 1/16W 33	1	
R6081	ERJ2GEJ101	M.RESISTOR CH 1/10W 100	1	
R6086	ERJ2GEJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6087	ERJ2GEJ222	M.RESISTOR CH 1/10W 2.2K	1	
R7002	ERJ2RKD680	M.RESISTOR CH 1/16W 68	1	
R7007	ERJ2RKD680	M.RESISTOR CH 1/16W 68	1	
R7009	D0HA1R0ZA005	M.RESISTOR CH 1/10W 1	1	
R7021	ERJ2RHD822X	M.RESISTOR CH 1/16W 8.2K	1	
R8101	ERJ2GEJ103	M.RESISTOR CH 1/10W 10K	1	
R8103	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R8105	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R8107	ERJ6GEYJ106V	M.RESISTOR CH 1/10W 10M	1	
R8108	ERJ6GEYJ106V	M.RESISTOR CH 1/10W 10M	1	
R8109	ERJ2GEJ102Y	M.RESISTOR CH 1/10W 1K	1	
R8110	ERJ2GEJ471	M.RESISTOR CH 1/10W 470	1	
R8111	ERJ2GEJ331	M.RESISTOR CH 1/16W 330	1	
R8112	ERJ2GEJ331	M.RESISTOR CH 1/16W 330	1	
R8113	ERJ2GEJ331	M.RESISTOR CH 1/16W 330	1	
R9003	ERJ2GEJ561	M.RESISTOR CH 1/16W 560	1	
R9005	ERJ2GED273X	M.RESISTOR CH 1/10W 27K	1	
R9006	ERJ2GED273X	M.RESISTOR CH 1/10W 27K	1	
R9007	ERJ2GEJ103	M.RESISTOR CH 1/10W 10K	1	
R9008	ERJ2GED273X	M.RESISTOR CH 1/10W 27K	1	
R9011	ERJ2GEJ910	M.RESISTOR CH 1/10W 91	1	
R9012	ERJ2GEJ221	M.RESISTOR CH 1/16W 220	1	
R9014	ERJ2GEJ561	M.RESISTOR CH 1/16W 560	1	
R9031	ERJ2GEJ102Y	M.RESISTOR CH 1/10W 1K	1	
R9032	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R9041	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9042	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9043	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9044	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9045	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9046	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9047	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9048	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9049	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9050	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9051	ERJ2RKF1000	M.RESISTOR CH 1/16W 1K	1	
R9061	ERJ2GEJ102Y	M.RESISTOR CH 1/10W 1K	1	
R9071	ERJ2GEJ392	M.RESISTOR CH 1/10W 3.9K	1	
R9072	ERJ2GEJ103	M.RESISTOR CH 1/10W 10K	1	
R9073	ERJ2GEJ103	M.RESISTOR CH 1/10W 10K	1	
R9074	ERJ2GEJ392	M.RESISTOR CH 1/10W 3.9K	1	
R9075	ERJ2GEJ103	M.RESISTOR CH 1/10W 10K	1	
R9078	ERJ2GEJ101	M.RESISTOR CH 1/10W 100	1	
R9080	ERJ2GEJ201	M.RESISTOR CH 1/16W 200	1	
R9081	ERJ2GEJ152	M.RESISTOR CH 1/16W 1.5K	1	
R9082	ERJ2GEJ472	M.RESISTOR CH 1/10W 4.7K	1	
R9103	ERJ2GEJ222	M.RESISTOR CH 1/10W 2.2K	1	
R9106	ERJ2RKD105	M.RESISTOR CH 1/16W 1M	1	
R9107	ERJ2RKD224	M.RESISTOR CH 1/16W 220K	1	
R9109	ERJ2GEJ331	M.RESISTOR CH 1/16W 330	1	
R9114	ERJ2RHD823	M.RESISTOR CH 1/16W 82K	1	
R9115	ERJ2RKD124	M.RESISTOR CH 1/16W 120K	1	
R9119	ERJ2RKD124	M.RESISTOR CH 1/16W 120K	1	
R9120	ERJ2RKD274	M.RESISTOR CH 1/16W 270K	1	
R9123	D0GB180JA057	M.RESISTOR CH 1/10W 18	1	
R9124	D0GB150JA057	M.RESISTOR CH 1/10W 15	1	
R9501	ERJ2GEJ242	M.RESISTOR CH 1/16W 2.4K	1	
R9502	ERJ2GEJ392	M.RESISTOR CH 1/10W 3.9K	1	
R9503	ERJ2GEJ752X	M.RESISTOR CH 1/10W 7.5K	1	
R9507	ERJ2GEJ242	M.RESISTOR CH 1/16W 2.4K	1	
R9508	ERJ2GEJ392	M.RESISTOR CH 1/10W 3.9K	1	
R9510	ERJ2GEJ242	M.RESISTOR CH 1/16W 2.4K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R9511	ERJ2GEJ392	M.RESISTOR CH 1/10W 3.9K	1	
RX2001	EXB28VR000X	RESISTOR NETWORKS	1	
RX2002	EXB28VR000X	RESISTOR NETWORKS	1	
RX6001	EXB28V103JX	RESISTOR NETWORKS	1	
RX6002	D1H81014A024	RESISTOR NETWORKS	1	
RX6003	EXB28V103JX	RESISTOR NETWORKS	1	
RX6051	D1H81014A024	RESISTOR NETWORKS	1	
RX6052	D1H81014A024	RESISTOR NETWORKS	1	
RX6053	D1H81014A024	RESISTOR NETWORKS	1	
RX6054	D1H81014A024	RESISTOR NETWORKS	1	
RX9001	D1H84734A024	RESISTOR NETWORKS	1	
RX9002	D1H86804A024	RESISTOR NETWORKS	1	
RX9003	D1H81014A024	RESISTOR NETWORKS	1	
RX9004	D1H81014A024	RESISTOR NETWORKS	1	
RX9005	D1H81014A024	RESISTOR NETWORKS	1	
RX9006	D1H81014A024	RESISTOR NETWORKS	1	
RX9007	D1H81014A024	RESISTOR NETWORKS	1	
RX9101	D1H81024A024	RESISTOR NETWORKS	1	
S9501	K0F111A00541	SWITCH	1	
S9502	K0F111A00541	SWITCH	1	
S9503	K0F111A00541	SWITCH	1	
S9504	K0F111A00541	SWITCH	1	
S9505	K0F111A00541	SWITCH	1	
S9506	K0F111A00541	SWITCH	1	
S9507	K0F111A00541	SWITCH	1	
S9509	K0F111A00541	SWITCH	1	
S9510	K0F111A00541	SWITCH	1	
S9511	K0F111A00541	SWITCH	1	
VA9023	D4ED18R00008	VARISTOR	1	
VA9031	D4ED18R00008	VARISTOR	1	
VA9032	D4ED18R00008	VARISTOR	1	
VA9033	D4ED18R00008	VARISTOR	1	
VA9034	D4ED18R00008	VARISTOR	1	
X6081	H1A7205B0004	CRYSTAL OSCILLATOR	1	
X9101	H0J327200085	CRYSTAL OSCILLATOR	1	
ZB9101	K3ZZ00500014	BATTERY HOLDER	1	